THE RICE INSTITUTE PAMPHLET

PUBLIC ADDRESSES

BRITISH EAST AFRICA: SOME PSYCHOLOGICAL ASPECTS

ROBERT B. MACLEOD

BRITISH EAST AFRICA: SOME ECONOMIC ASPECTS

MERRILL KELLEY BENNETT

A FOOTNOTE TO PHILOSOPHY AT MID-CENTURY

JAMES STREET FULTON

CLASS DISTINCTIONS IN EIGHTH CENTURY ITALY

KATHERINE FISCHER DREW

ARCHITECTURE

GREENOUGH'S THEORY OF BEAUTY IN

EDWARD ROBERT DEZURKO

Volume XXXIX October, 1952 Number 3

THE RICE INSTITUTE PAMPHLET *is published at Houston, Texas, and is issued in January, April, July, and October. It was entered as second-class matter, April 15, 1915, at the post office at Houston, Texas, under the act of August 24, 1912.*

THE

RICE INSTITUTE PAMPHLET

Vol. XXXIX October, 1952 No. 3

PUBLIC ADDRESSES

Published by

THE RICE INSTITUTE

A university of liberal and technical learning founded by William Marsh Rice in the City of Houston, Texas, and dedicated by him to the advancement of Letters, Science, and Art

THE RICE INSTITUTE PAMPHLET

Vol. XXXIX October, 1952 No. 3

CONTENTS

PAGE

I. British East Africa: Some Psychological Aspects, by Robert B. MacLeod, Susan Linn Sage Professor of Psychology, Cornell University 1

II. British East Africa: Some Economic Aspects, by Merrill Kelley Bennett, Executive Director of the Food Research Institute and Professor of Economic Geography, Stanford University; M. D. Anderson Visiting Professor of Economics at the Rice Institute 26

III. A Footnote to Philosophy at Mid-century, by James Street Fulton, Professor of Philosophy at the Rice Institute 40

IV. Class Distinctions in Eighth Century Italy, by Katherine Fischer Drew, Assistant Professor of History at the Rice Institute 61

V. Greenough's Theory of Beauty in Architecture, by Edward Robert DeZurko, Associate Professor of Architecture at the Rice Institute 96

BRITISH EAST AFRICA: SOME PSYCHOLOGICAL ASPECTS*

IT IS not often that a psychologist has an opportunity to travel to out-of-the-way places. This privilege is usually reserved for our anthropological colleagues. Consequently when early last winter I was invited to join a small group of social scientists on an expedition to East Africa, I leapt at the opportunity. Our sponsor was the Carnegie Corporation of New York, with the co-operation of the Institute of International Education. Our group consisted of four social scientists, an economist, a political scientist, an historian, and a psychologist. A fifth was added after we arrived in Africa, a brilliant young man who has been sent out by the Crane Foundation to study the operations of the East Africa High Commission. He proved also to be a famous big game hunter, which added not only to the interest of the expedition but also, at times, to our feeling of security. Our mission was to investigate possibilities of constructive social science research in the East African territories. None of us went over as an expert. We had altogether only something over three months for our tour, which included for some of us periods in Central and South Africa and for me an additional week in the Belgian Congo. When I report some of our experiences I must consequently make it quite clear that I am not speaking as an expert. We were sent to become acquainted with the country, to bring back some research ideas and, it was hoped, some enthusiasm. We saw quite a lot of the country, including some very wild parts. We visited and interviewed countless offi-

* A public lecture delivered at the Rice Institute on January 20, 1952.

cials, missionaries, native leaders and ordinary people of the towns and villages. We have certainly brought back unbounded enthusiasm, and I think we have brought back a few fairly good ideas for research. I should like to discuss with you a few of the problems that suggest themselves to a psychologist who visits East Africa.

In the United Nations and in our own Point 4 Program we are now expressing a deep interest in and concern for the underdeveloped areas of the world. East Africa is one of these underdeveloped areas. Its resources are relatively untapped. Its people are, according to our standards, primitive. We want to gear its economic production into the world economy. We should like to welcome its people into the family of nations. But the people of East Africa are also underdeveloped. The world is crowding in on them. Whether or not they like it, and whether or not we consider it right, they are being drawn into the maelstrom of world affairs. They now lack the knowledge, the skills and the maturity to compete successfully with the rest of us. We, as a more advanced people, have an obligation to help them to survive. Underdeveloped people, like children, have to be helped. But before we can help them, we must understand them; and to understand them, we must study them. This is part of the challenge of East Africa to the social scientist.

Before I begin to talk psychology, may I quickly review a few broad facts about the territories of East Africa? If your knowledge is as meagre as mine was when I went over, you will find a few facts useful. It may help to look at a map. East Africa technically comprises three territories: Uganda, a British protectorate, Kenya, most of which is a British colony, but part of which is a protectorate, and Tanganyika, a United Nations mandate, before World War I a German colony. I shall also include the tiny but utterly entrancing

little islands of Zanzibar and Pemba, which still have their own Sultan but which are administered by the British colonial office. All four territories are co-ordinated through the East African High Commission. Together they occupy an area more than one fifth the size of the United States. It is a big place. It contains lakes that vie in size with the Great Lakes; Lake Victoria is only slightly smaller than Lake Superior; Lake Tanganyika and Lake Nyasa are both larger than Lake Erie. It boasts mountains that dwarf the highest peaks of the American Rockies. It contains lush tropical jungles, rich farmland producing bananas, sugar-cane, cotton, sisal, coffee and a wide assortment of grains, great stretches of open cattle-country, and untold square miles of barren wasteland, where the scarcity of water makes human habitation impracticable. East Africa still teems with wild life. Elephants roam in great herds, lions and leopards stalk the unwary zebras and antelopes, and wild buffalo thunder across the plains. If you live by a river or lake, the hippos are likely to crash into your garden at night, and the crocodiles are ready to receive you if you are reckless enough to step into the water. There are unbelievably beautiful gazelles, ridiculous looking giraffes and ostriches, and impudent baboons, and if you enter the jungle you may, if you are lucky, catch a glimpse of a giant mountain gorilla. The producer of King Solomon's Mines crowded a great many animals into one picture; but they are all there, and even the casual traveller can see most of them.

The equator runs through the heart of Uganda and Kenya, but the climate is for the most part quite pleasant. Most of the country is upland territory, between three and five thousand feet above sea-level. The days may be warm but the nights are cool and often chilly. In Kampala, Uganda, for instance, the mean monthly temperature varies between

68 degrees and 73 degrees F., and it seldom rises higher than the middle 80's or falls lower than the middle 60's. In Nairobi, Kenya, the mean temperature is somewhat lower, because Nairobi has a greater altitude; and down on the coast it is naturally higher. New York City by contrast has a range of monthly mean temperatures from 32 degrees to 75 degrees. Even on the coast, where it can be uncomfortably warm, I never suffered as much as I have in Washington, D. C. Perhaps one of the reasons is that the Africans, unlike the Washingtonians, have learned to slow their movements down to a pace that is appropriate to the climate. There are only two seasons in East Africa, the dry and the wet. Except for the desert areas, the total rainfall would appear to be adequate. In Nairobi, for instance, the mean annual rainfall is 38 in., as compared with 42 in. for New York City. This is an adequate rainfall, but unfortunately it is not evenly distributed. During the rainy season the water comes down in torrents, and during the rest of the year the country gradually dries up. This is particularly true of Kenya and Tanganyika; in Uganda the rainfall is better distributed. As it happened, our visit was timed to coincide with the rainy season, so that now we know what real rain is like. I am grateful for the experience, in retrospect. During one particular deluge last April the rain-gauge in Nairobi registered almost five inches during the course of one hour. You may not believe it, but you would if you saw tiny rivulets transformed in a few minutes into raging torrents, roads turned into lakes, and parked automobiles swept a hundred yards down the street. When it rains like that you give up the idea of driving anywhere, for the roads become quagmires, and you are lucky if the few lonely railway lines that wander across the territory have not been washed out. We

spent our first month travelling by car. After that we gave up and used airplanes.

In all East Africa there are approximately 18,000,000 people. Of these, possibly 200,000, or 1% are Asians, i.e., Indians, Pakistani, Goans; 85,000 are Arabs, most of whom live along the coast and in Zanzibar and Pemba, and altogether there are perhaps 50,000 people of European stock, ¼% of the total population. Population figures, I might mention, are difficult to collect in a country where the great majority of the people do not even know how to count beyond the number three. Most of the Europeans are clustered in the larger towns, Kampala, Jinja, Nairobi, Mombasa, and Dar-es-salam, and in a few areas in Kenya that have been opened up to European settlement. So, you can see, it is still a black man's country, at least in population. Probably millions of East Africans have never yet seen a European, and even in many of the places we were able to visit, the appearance of a European was an occasion for great excitement. Except for the white settlers in Kenya and the occasional white plantation managers in other parts of the territory, most of the Europeans outside the towns are missionaries or government officials, and these are dotted so thinly that the Commissioner of an outlying district may have to travel for 50 miles before he can see another European face.

But the Indians we find everywhere. They are the great commercial middle-class. Wherever you go, even to the most remote village, you are likely to find a little Indian *duka,* a one roomed shop, where the Africans make whatever purchases they are able to make. In the towns the Indians not only control the commercial life, but they may have an important say in politics as well. The mayor of

Kampala is an Indian; so is the mayor of Dar-es-salam. With a few exceptions the wealthiest people of East Africa are not Europeans, but Indians. The Indians of East Africa are not a depressed minority. They are a minority, but a minority that wields power. They are vigorous, enterprising and, according to the Africans, unscrupulous. They are growing rapidly in number, because of a high birth-rate and a liberal immigration policy. Many people wonder whether East Africa is destined to become eventually an Indian colony.

The Arabs present an interesting contrast. Dotted along the coast-line the Arab communities date back for hundreds of years. The Arabs were the old time slave-traders, who in bygone days were vigorous, adventurous, and ruthless, who organized expeditions deep into dangerous unexplored territory, who battled and bartered with native chiefs for slaves, and who bargained shrewdly with the slave-traders of the west. To-day they are a different people. The twentieth century has passed them by. Some of them still live on their great estates or behind the massive, bronze-studded doors of the fine houses of Zanzibar. But they have lost their language and their contact with the homeland. They now speak Swahili, and what Arabic they know is merely what they have learned by rote in the Koran school. Bit by bit their property is being wheedled away from them by the Indians. The great majority of the East Coast Arabs are now poor and defeated people, still proud of the heritage that they only dimly understand but lacking the will to compete with the industrious, ambitious, imaginative newcomers. One cannot help feeling a bit sad about the East Coast Arabs.

But there is an interesting division in the Arab community that invites sociological study. Each year there is an invasion of Arab traders from the Old Country. These are rough,

tough, semi-barbaric men who arrive at Mombasa and Zanzibar in their picturesque dhows, and who usually stay for several months. They are filthy, they swagger about the streets with highly ornamented daggers at their belts, and they drive hard bargains. The old Arabs of the coast look down upon them because they are uncouth and uneducated. But there is one thing about them that they envy; they still speak Arabic, the language that the old Arabs have lost. So we now find a movement among the old Arabs of the coast to revive the Arabic language and to restore self-respect to the Arab community. Whether it will succeed is an open question.

But the people we are most interested in are not the Indians, the Arabs, or the Europeans in East Africa, but the Africans themselves. When I think of the people of East Africa I think of people with dark brown skins, barefooted people with rings in their ears and around their necks and ankles, with tribal scars on their cheeks and chests, clad in goat-skins, in robes of bark-cloth, in pathetic imitations of European clothing or in no clothing at all. I think of women walking proudly erect with bundles on their heads or struggling along with great burdens on their backs, supported by a thong around the forehead. I think of wide-eyed children with beaming smiles and a natural grace that only childhood can achieve. I think of men who live from morning to night in a daze of partial drunkenness, of men who are struggling to understand a strange new world that is thrusting itself upon them, who are trying to maintain dignity in the face of challenges that they do not fully comprehend, of men who see us as a threat to all that they hold dear, who are prepared to fight back, knowing all the while that it will be a losing battle.

East Africans are primitive people, among the most primi-

tive we can find anywhere in the world. But they are people. Anyone who is interested in people, as a psychologist ought to be, finds them all the more fascinating the more they differ from himself. I found the Africans entrancing and lovable. Like other Europeans I found them amusing and exasperating. But, above all, I found them challenging. Here for the first time in my own experience I encountered people who live in a world utterly different from my own. I should like to have the kind of omniscience that would permit me to peer through the eyes of the African padding his barefooted way along a jungle path.

There is, of course, no such thing as "an African." This is merely the label the Europeans use to designate the people who were there before them. It is interesting to note that as you move south the designation changes. In Southern Rhodesia they are called "natives"; in South Africa they are called "blacks." In East Africa, however, they are still Africans, and one likes to think that this is a tacit admission on the part of the European that he is in somebody else's country. This is in fact the attitude of most of the British officials in East Africa. I came to know a great number of them. I was prepared to find them stuffy. I found instead a group of keen, for the most part young, and almost without exception devoted men, who saw their job as that of helping the Africans to learn how to manage their own affairs.

The nearly 18,000,000 natives of East Africa represent a variety of so-called racial types. It is customary to recognize three major stocks, the Nilotic, the Hamitic, and the Negroid. But these terms really have very little meaning. In appearance they range from tall, lightly boned, thin featured people who in profile resemble the figures in the Egyptian museum in Cairo, to the short, broad-nosed thick-lipped types usually associated with the American Negro. But there is no uni-

formity. For the most part, they are shorter and more lightly built than we are, but there have been so many internal migrations in the past that if there ever was any racial purity it has long since ceased to exist. They speak a multitude of languages, most of them variants of the Bantu type, although some bear very little resemblance to Bantu. There is no real lingua franca, but the nearest thing to it is Swahili, the language of some of the coastal tribes, that was brought inland by the Arab slave-traders. The traveller can usually find someone who has a smattering of Swahili. The people live for the most part in small villages, ruled by their local tribal chiefs, their everyday lives governed pretty much by tribal custom. The British colonial administration operates through these tribal chiefs, by a system known as the Native Authority, the theory being that government should always be as consonant as possible with tribal tradition, although the District Commissioner will step in and administer justice himself in the case of a serious crime like murder.

The houses of the Africans are usually small, round, one-roomed, mud-and-wattle huts, thatched with straw, papyrus, or whatever other thatching material happens to be available. In an agricultural community they make their living from their little *shambas,* or small farms. On the plains, their lives are centered about their cattle. The basic economy is one of local self-sufficiency. They eat and clothe themselves with what they produce. In banana-growing districts the staple is a banana mush, called *matoke;* in the grain-growing districts it is a grain mush, called *posho;* in the cattle country they are likely to subsist on blood and milk, with occasional meat and grain supplements. In recent years the introduction of coffee, sugar, cotton and sisal plantations, and a certain amount of small scale industry, has attracted migrant workers away from the villages. A common pattern of living

nowadays is for a man to leave his shamba to be cultivated by his wives, if he can afford more than one, and to go away for several months or even years to work for money on a plantation, on the roads, or in a factory. The increasing use of migrant labor is creating new social problems. Where men from different tribes are employed together, the sanctions of tribal tradition tend to break down. One of the acute social problems of East Africa is consequently that of the "detribalized" African, the man who has lost his moorings in tribal life and has found no adequate social substitute. Although it is recognized that if East Africa is to move in the direction of industrialization, large-scale detribalization is inevitable, one can nevertheless see the bad effects of too rapid detribalization in the increasing crime rates in the larger towns.

Religion is still pretty much a tribal affair. Even in the districts where the missionaries have been most active, and the various warring sects have been competing with one another for converts, it is still difficult to classify people according to religious faith. I met one man whose children went to a Protestant school, who nevertheless regularly propitiated the spirits of his ancestors by placing food offerings before a miniature straw hut in the corner of his shamba. We were received most hospitably by the chief of one of the Tanganyika tribes who was a member in good standing of the Roman Catholic Church. He is a most charming man, in an advanced stage of syphilis, who has several wives, and two of whose daughters were bringing in a little extra income through prostitution. I met one of the daughters, an attractive girl, who works during the daytime as a teacher in the local government school. Two of her illegitimate children attend the school. Perhaps the most vigorous single religion is the Moslem religion, which was brought

into East Africa by the Arab slave-traders. In the costal districts, virtually every African is a Moslem, but one finds them in great numbers in the back country as well. From the African point of view it is a practical religion, for it has a very simple theology, a readily intelligible code of ethics, and it permits polygamy, to which the Africans are devoted.

Please do not interpret what I am saying as a disparagement of the Christian missions. The theologically minded missionaries may have confused the Africans with their sectarian squabbles. For the most part, however, the missionaries, Protestant and Roman Catholic, have been genuinely devoted to the welfare of the people, have tried to understand them, and have been responsible for much of the social progress that has been achieved. Perhaps the most inspiring experience of our whole trip was a visit to a leper colony in Eastern Uganda, where an English doctor, supported only by one English medical assistant and two English nurses, has organized hundreds of lepers into a happy community based on the principle of self-help. What funds he has have come from private subscription in England. He receives his medical supplies from the government, but all the work is done under his direction and inspiration by the lepers themselves. Under his supervision they cook their own meals, they raise their own crops to provide the food, they build their own houses with bricks that he has taught them how to make. He has even trained a group of lepers as medical assistants who give the treatments that the patients regularly receive. I do not know whether Dr. H. R. Wheate is to be listed as a missionary, but he is an example of the kind of devotion that is an expression of the missionary spirit.

If it were not for the missionaries even the present inadequate educational facilities would not be what they are. The

mission schools, Protestant and Roman Catholic, are still carrying a large share of the task of primary education. The financing of these schools is gradually being taken over by the government, but the task ahead is enormous. There are not enough schools, there are not enough teachers, to take care of even the most elementary needs of the African population. To have had four grades of schooling is a distinct privilege. To have had six grades of schooling may qualify one to be a teacher. In all East Africa there is only one institution offering education beyond the High School level. This is Makerere College in Kampala, Uganda, where about 300 carefully selected African students are preparing themselves for careers in teaching, agriculture, engineering and medicine. Three hundred young men and women out of a total population of nearly 18,000,000! Makerere cannot begin to meet the need. What they are doing in Makerere is an inspiring story in itself, but that story would require a separate lecture.

East Africa presents problems that challenge the economist, the political scientist and the sociologist. The problem that challenges the psychologist is the problem of "African mentality." Most of the people one meets in East Africa are not psychologically sophisticated. There are almost no educated Africans, and apart from the missionaries, whose training is not always what it might be, the Europeans one meets are either colonial officials, whose training has probably been in the practical aspects of administration, or rough and tumble pioneering types who have little patience with human weaknesses and no curiosity about human nature. All these people talk about "the African." They have many adjectives to describe him, the most respectable of which is "childlike." The more thoughtful of them may wonder why the African cannot adapt himself to European

ways. Most of them will simply condemn him as an inferior being. The psychologist as a scientist cannot accept such prejudgments of people. His duty is rather to raise questions and to try to find answers.

One of the fascinating things for me was that one's first observations all tended to support the stereotype. One saw an African trying to insert a bolt into a nut, and he simply could not master the principle of the threaded screw. Africans have great difficulty in ploughing a straight line, in laying bricks according to a rectangular pattern, in setting out coffee plants at equally spaced intervals. Africans seem to have a defective time sense. A planter of my acquaintance asked a group of prospective employees to wait for a few minutes, and then he forgot about them. Two days later they were still waiting, quite patiently and with no resentment. Africans do not respond to ordinary money incentives. You raise their wages to make them work harder, and they stop working all the sooner. Africans seem to have no emotional depth. They grin when you scold them; if they become angry, a joke will restore them to good humor; they laugh uproariously if someone tumbles from a truck and breaks a leg. All in all they present the picture of undeveloped people, shallow, irresponsible, lovable—just like children. I have often been asked about the possible danger of Communism in East Africa. The answer is that most of them could not understand even the most elementary Communist ideas.

Those who work for the development of East Africa are confronted by many obstacles. The uneven rainfall adds to the difficulty of agricultural planning, to which the ill-starred ground-nut scheme bears witness. Until the tse-tse fly can be conquered, great stretches of potentially good cattle land will remain unproductive. East Africa has no

natural fuel supply; her water-power is difficult to harness; and roads and railways are still primitive.

But the greatest obstacle of all is the mentality of the African. Employers of labor complain bitterly of the labor shortage; yet wherever one looks there are Africans standing around idle. Employers have not yet discovered how to induce them to work. Agricultural officers try patiently to teach them the benefits of contour ploughing, of crop rotation and of soil fertilization; but the results are discouraging. The cattle-herders cannot understand the principles of selective breeding. They overgraze their land, and refuse to sell their surplus. For them wealth is defined in terms of cattle, not in terms of the money received from their sale. Medical men try to teach them the elements of sanitation and hygiene. Administrators try to encourage in them an interest in responsible self-government. Small advances are being made along all these lines, but the progress is so slow as to be disheartening. Time and again even their well-wishers come to the conclusion that the Africans lack the necessary intelligence and initiative to participate fully in the development of their country. They are really just children, and we cannot expect much of children.

Even if I were qualified to do so, I could not in one brief talk examine all the interesting psychological problems suggested by the mentality of the African. I shall limit myself to just a few of these, which I shall present as hypotheses that invite research. I cannot give you the answers because the research has not yet been performed.

The first and most common answer one hears might be called the biological-genetic hypothesis. This is simply that Africans come from a different stock that is constitutionally inferior to our own. Those who defend this hypothesis on scientific grounds argue from the principles of evolutionary

biology. Africans, they say, have evolved in an environment that places few demands on individual initiative and ingenuity. Natural selection in the tropics does not operate to maintain and accentuate the characteristics that we admire most. Furthermore, in districts in which famines are recurrent, natural selection favors the individual who can live on a low level of energy output. In such an environment nature literally discourages intelligence and initiative. This, I think, is the least plausible of the hypotheses I am going to present. What we know of heredity does not tend to support the application of the doctrine of natural selection to the inheritance of psychological characteristics. Furthermore, we have the mounting evidence that members of supposedly inferior races, when placed in a more stimulating environment, will tend to lose their apparent inferiority. Nevertheless, the question should not be considered as settled. We must still concede the possibility that, through as yet undiscovered genetic processes, psychological characteristics may be inherited. It may be that natural selection in one form or another has produced a constitutional type different from our own.

The second is a physiological hypothesis, which I find somewhat more inviting. This suggests a relation between African mentality and dietary deficiency, particularly deficiency in the proteins. And here we have some evidence. According to our nutritional standards there is a serious protein deficiency in the diet of the great majority of East Africans. The banana diet is particularly low in proteins, and the grain diets are only slightly higher. And even where some meat and fish are available the people do not get enough to make up the deficiency. One of the most common diseases of East Africa, particularly of the banana-eating districts, is what is called *kwashiorkor*. Kwashiorkor pa-

tients are stunted in their growth, have lost much of their pigmentation, and in acute cases present the appearance of almost completely apathy. Dr. H. C. Trowell of the Mulago Hospital in Kampala, who has spent a quarter of a century in that part of the world, has concluded that kwashiorkor represents a protein deficiency syndrome. Unfortunately, an adult with these symptoms is only slightly improved if protein is added to his diet. Something can be done, however, for the children. In almost any hospital in Uganda one finds what they call the "brown babies." These are children who show the kwashiorkor symptoms. They are light in color, undersized, emotionally apathetic and obviously retarded in their intellectual development. When these are put on a diet richer in proteins they come back to normal, and the improvement is sometimes quite dramatic. Dr. Trowell, who is my main source of information, suggests that the critical period for protein deficiency is in early childhood. African children are usually breast-fed until they are two and a half to three years old. During the first year the mothers's milk is adequate. During the second and third years, however, the child is literally protein starved. If it is given any dietary supplement, this will be a low-protein banana or grain mush. This protein starvation during a critical period of growth results, according to Dr. Trowell, in a retardation of cellular development, possibly even in the cells of the central nervous system. Dr. Trowell suggests that this retarded physiological development, which is due to protein deficiency in childhood, may be responsible for what looks like widespread psychological retardation. The protein deficiency hypothesis is only one of a number of physiological hypotheses, but it is an hypothesis that can and, we hope, will be tested by research.

A third type of hypothesis might be called the psycho-

logical-genetic. During recent years there has been a great deal of emphasis in psychology on the role of early childhood experience in the development and organization of the personality. Freud and his disciples have been particularly influential in this respect, but the recognition of the importance of early childhood is not confined to the Freudians. It has been suggested, for instance, that much of what we think of as the Russian character is related to the widespread Russian habit of tightly swaddling their infants, that the preoccupation of the Balinese with graceful ritualistic dances is rooted in an attitude engendered in early childhood as a reaction to the Balinese habit of alternately fondling and teasing their children, that some of the Japanese character traits are based on early childhood toilet training practices. Many of these interpretations are undoubtedly oversimplified, and I am prepared to argue against an exclusively genetic approach to the understanding of personality. Nevertheless, the different cultures of the world vary widely in their attitudes toward children and in their approved ways of rearing children. It would be strange indeed if we could not gain some insight into the mentality of the adult from an understanding of the way in which his life got started.

Certainly the problem of African mentality invites such a study. African children are lovable, irresistible little creatures, happy, friendly, and tractable. African babies seldom cry; children on the playground seldom quarrel with one another; the school-teacher may have problems of inattention among his pupils, but for him there is no problem of discipline as we know it. African children may fail to understand or to remember what we tell them to do, but they are always smilingly co-operative; and they grow into adults who are for the most part happy and serene. Perhaps their infant experience had something to do with it. Child rearing

practices vary, of course, from tribe to tribe, but for the most part African children are born into a world that loves children. Every man wants children, and for the African woman life without children would be unthinkable. There is no fear of parental responsibility, there are no books on child psychology to make parents uneasy about the way they are bringing their children up, no feeding schedules, no rules for toilet-training, and very few precious possessions which the child must not touch. For the first few years of his life the African child is virtually a part of his mother. During the day he lives on her back, nestling down in a cloth that envelopes her shoulders, or toddles beside her clutching her skirt. At night he is beside her on her sleeping mat. As we have noted he is always breast-fed, and, since Mother is always accessible, hunger is assuaged as soon as it is felt. He will continue to suckle for perhaps two or three years. Weaning is a gradual process that merely accompanies his developing taste for other foods. Even after he is old enough to run about and play by himself he is likely to remain physically close to his mother as she plies her hoe in the field, carries home her bundle of firewood or pounds her maize or millet in front of her hut. For the little African early childhood is thus a period in which there are no major threats, no serious frustrations, and almost no unanswered needs. Later he may learn to fear the leopards and the crocodiles, to realize that the law of nature and the law of the tribe may deny him many things that he wants; but during early childhood he lives in a world that contains no conflict.

What is the effect of this kind of childhood on the developing personality? Unfortunately this is a branch of psychology in which facts are difficult to establish and hypotheses cannot readily be tested. There are too many people

who call themselves psychologists and talk as though they knew the truth about cause and effect in child development, who are willing to present personal hunches and popular prejudices as though they were the established findings of careful scientific research. It will be many a long year before any responsible scientist will dare to assert what causes produce what effects during the course of psychological development. And certainly no scientist can say with assurance that one method of child rearing is right and another method wrong. Nevertheless, one cannot observe the children of Africa without being led to wonder about the implications of what one sees for the theory of psychological development, and to question the soundness of some of our commonly accepted beliefs.

One immediately thinks of the concept of security. It is often asserted that psychological security in early childhood is basic to good adjustment in later life. Security is a popular term in the psychological jargon of to-day. We like to damn our friends by saying they are basically insecure. Insecurity is supposed to be bad; we are damaging our children and our students when we create insecurity in them. I sometimes wish we could banish the word from psychology, or at least insist that every use of it be prefaced by a definition. One dictionary defines "secure" as "free from care, anxiety or apprehension; easy in mind, not fearing for the future; undisturbed, untroubled as to the future." If psychological security is to be found in childhood anywhere, we certainly find it in Africa, and in varying degrees it is found in many other so-called primitive people. According to the psychologists who preach the importance of psychological security, such children should develop into healthy, well-adjusted adults. But do they? The disturbing thought is that perhaps they do. I have never seen people so free from care,

anxiety or apprehension, so unconcerned about the future as the Africans. They are not ridden by guilt and anxiety feelings. They do not worry about the day after to-morrow. This is one of the reasons why we find them so charming and lovable. But this is also one of the reasons why Europeans find them so completely exasperating. They do not worry about the past or the future; that is, they are irresponsible and undependable. Punishments do not affect them deeply, and rewards do not provide effective incentives. They lack those fine pioneering virtues that we admire so much, ambition, stubborn perseverance, grim determination. Can it be that psychological security in childhood leads to precisely the kind of personality that cannot survive in the tough, competitive world in which we live, that the child who learns to think of the world as loving and friendly will grow into an adult who will be petted and patronized, and perhaps even loved, but never really respected?

Now it would obviously be unscientific to argue that, because in one part of the world psychologically secure childhood is followed by ineffectual adulthood, there is therefore a causal relation between them. We all remember the elementary logical fallacy, "Post hoc ergo propter hoc." From such observations we can do nothing more than draw an interesting hypothesis. It may be that the psychologically secure child does in truth grow into a psychologically secure adult, an adult with the naive and trusting simplicity of childhood, and that we, the so-called civilized people, are the ones who are frustrated, maladjusted, and insecure. It may be, on the other hand, that psychological security is not entirely a good thing, that too much security engenders an attitude of dependance that will later become a psychological liability. It may be that too much security prevents the development of initiative, imagination, and creativity, that the experience

of being frightened and thwarted is actually essential to the development of genuine selfhood. I shall not argue for one alternative rather than the other. What I do suggest, however, is that here there is a rich field for exciting and profitable research. The extent to which the pattern of personality is laid down in early childhood experience can never be determined through the study of only one culture, but when we look at even one culture that is radically different from our own we are given ample food for thought.

A fourth type of hypothesis to account for African mentality might be called the psychological-social hypothesis. According to this, the conditions of social living in an African tribe are such as to favor a kind of mentality that is quite different from our own. Basic to this hypothesis is the further hypothesis that the psychological characteristics of people are essentially reflections of the kind of culture they live in. Some anthropologists have gone so far as to postulate a basic personality type for each culture. Thus, the culture of the Kwakiutl Indians, with its tremendous emphasis on prestige, generates an individual who is typically ambitious and aggressive; whereas among the peaceful ceremonial Zuni the typical individual is self-effacing. The doctrine of basic personality type is too complex a subject to be discussed at this time, but without categorically accepting or rejecting it we can see many ways in which mentality is clearly related to social structure.

Let me begin with an example which was new to me but which is familiar to my anthropological colleagues. Being impressed by the obvious childlike characteristics of Africans, I was reminded of one of the peculiarities of children as I know them. When a small child, aged three perhaps, looks at a picture we are sometimes troubled by the fact that he seems to see it just as easily upside down as right

side up. There have unfortunately been very few studies of this phenomenon, but such studies as we have indicate that for the very young child the orientation of a picture in space is relatively unimportant, and that as he grows up he becomes more and more bound by the up-down, right-left dimensions, until eventually he finds it difficult as we do to recognize upside-down pictures. I naively thought that childlike African adults might have childlike picture-perceptions. I began asking questions. The answer was rather upsetting, namely that Africans cannot see pictures. Now this is obviously not true, because educated Africans can see pictures as well as we can, and some of them can paint very much better pictures than at least I can. But time after time I heard the story of uneducated Africans, straight from the village, who would look at a photograph of some familiar person or object, would turn it this way and that, and say, "What is it?" For them the bi-dimensional representation of a tri-dimensional object or scene is not perceived as a representation at all. We do not know what they see when they look at a picture. So far as I know, no one has ever done any research on the subject. Their eyes are at least as good as ours, and probably better; yet somehow or other the relationship of pictorial representation seems to play no part in their perception. I could speculate about the reasons, but this would take me away from the subject. The point is that even in such an apparently elementary function as visual perception they do not see things as we see them. A member of a cattle-herding tribe may own 100 cattle. Cattle are his life. He loves every one of them; yet if you ask him how many he has he cannot tell you, for he cannot count beyond three or four. Nevertheless he knows them all by name, and if necessary he will name them all for you. I have often had the experience, working through

an interpreter, of asking what seemed to me to be a simple question, and finding that it took the interpreter a long time, with many repetitions, to convey the meaning of the question. The difficulty was that my question had contained some abstract concept for which there was no word in the native language. It is often said that primitive people cannot abstract. This is untrue, but some of the abstractions familiar to us are meaningless to them.

One could multiply such examples indefinitely, but the point I wish to make is that what we mean by mentality must include not merely mental capacity but also mental content. It may be that there are essential differences in mental capacity between Africans and people of other races, although I doubt it, but certainly there is a tremendous difference in mental content. When people live in a world that makes no demand for pictorial representation, or for the enumeration of individuals, pictorial relationships and number concepts will not develop. A much quoted philosopher of the past once said, "Entia non sunt multiplicanda praeter necessitatem." Things (or concepts) are not to be multiplied beyond necessity. We call this the principle of parsimony in science. The minds of people work according to the principle of parsimony. For the most part we do not see in the world about us much more than we really need to see.

What is it then that the African sees in the world about him? What is the content of his psychological world? This is, it seems to me, merely a restatement of the first question we must ask in any psychological investigation. We can never fully understand people merely by observing, counting and tabulating their reactions. We begin to understand them as we begin to see the world through their eyes and to grasp the meanings that their words have for them. This,

as we all know, is a difficult task when we are studying people very much like ourselves. It is still more difficult when we try to understand the mind of the child. It is baffling, but at the same time fascinating, when we try to comprehend what is going on in the minds of people as utterly different from us as are the Africans. We have at present no adequate research tools for such an enterprise. We gain some indirect insights, of course, through the analysis of language, artistic productions, religious beliefs, legal practices and other cultural products, although in East Africa even these records are woefully inadequate. What we need is more direct methods of determining the mental content of other people, tests that will reveal not only the components of African mentality that will correspond to our own expectations but the mental contents that are peculiar to the Africans themselves. We have, for instance, a test of mental ability designed by one of our own psychologists that has been publicized as a "culture free" test. It depends largely on the manipulation in visual imagination of certain geometric forms. The African scores very low on such a test because in his culture there are no such simple geometric designs. Such a test tells us nothing about African mentality except that it cannot be tested in this way. In all East Africa there is not one psychologist working on the problem of devising appropriate tests, and in the whole continent of Africa there are only a handful.

I cannot take time to discuss possible avenues for psychological research on African mentality. It seems clear to me, however, that we cannot merely take the instruments that we have developed for the study of people in our culture and adapt them to Africans. What the psychologist must do is immerse himself in the other culture as the anthropologist does, and in the light of his growing insight devise instruments that are appropriate to what he finds.

Of the four types of hypothesis I have mentioned I have suggested that the first, the biological-genetic, is probably not fruitful but must not be discarded until more evidence becomes available. The other three, the physiological, the psychological-genetic and the psychological-social, are all worth exploring. In each case we have a legitimate field of research, and we have suggestive facts. The physiological approach will be the easiest because the methods are better developed, but all three lines of inquiry deserve to be followed. As you have probably gathered, I have come back from Africa more than a little in love with Africa and the Africans. I am convinced that psychological research in Africa is badly needed. It is needed not merely because the psychological understanding of a mentality different from our own will enrich our understanding of people in all cultures—and this is a point that can not be too strongly emphasized. It is also needed because, as I tried to point out at the beginning of my talk, to understand the Africans is to take a first step in the direction of helping them. East Africa is being caught up in the struggle between the East and the West. East Africa is being economically exploited, and will be still further exploited. The structure of East African tribal life is beginning to weaken, and it will be only a matter of time before it collapses completely. These are facts which some may deplore, but which no one can deny. East Africa is becoming part of the larger world. If the people of East Africa are to survive, they must learn to live in the larger world. They cannot for a long time be expected to contribute leadership, or even to assume full responsibility for their own affairs, but they deserve to be treated as people, whose contribution will be appreciated and respected.

Robert B. MacLeod

BRITISH EAST AFRICA: SOME ECONOMIC ASPECTS*

BRITISH East Africa consists of Kenya Colony and Protectorate; Uganda Protectorate; and Tanganyika, a trusteeship under the United Nations. The whole falls under the British Colonial Office as to general administration. Because of the differences in legal status, internal techniques of government are not precisely uniform. But each component has its British governor and its secretariat, and each, outside of the few larger towns and the relatively small areas reserved for Europeans, is divided into districts wherein a District Commissioner, rather like a small-scale king, is the responsible official. One of the major current efforts of the government is to devise ways of teaching the natives and of and inducing them to participate in their affairs. But I shall say nothing about this. The area has a common currency, a common postal and telegraph service, and a common organization in charge of railways, waterways, and harbors. Under the High Commission, which consists of the three governors, it also has a series of research organizations and a central statistical office.

British East Africa is about as big as the combined area of Texas, Louisiana, Oklahoma, Arkansas, Kansas, and Nebraska—roughly 700,000 square miles. It is also about the same in dimensions North and South and East and West—some 800 miles wide at the widest and 400 at the narrowest, and some 1,300 miles long. Also the population is about the same as that of these states—some 18 million. But the 18 million in British East Africa do not speak a single lan-

* An address delivered before the Houston Philosophical Society at the Rice Institute on October 18, 1951.

guage. There are many dialects and many tribes of natives. English is merely the top-level language. Swahili or pigeon Swahili is the lingua franca so far as there is such a thing.

There are only about 55,000 whites, called Europeans, among the 18 million people of British East Africa; only about 170,000 Indians; only about 50,000 other non-natives like Arabs, Goans, and mixed-bloods. Over 98 percent of the population are native negroes, whether Bantu, Nilotes, Hamites, or primitives. Some of these are in a condition almost of savagery, and a great many not far removed from it. There is, however, no longer any cannibalism or inter-tribal warfare; no longer any murder or cattle raiding unpunished by English law. The whole region is internally pacified and under a rule of law and order. English law governs in the most important matters, but tribal law has its place, especially in the sphere of equity. The number of British troops which has to be stationed in the area is small, though I do not know the count and location. Most, I suppose, are along the Abyssinian border as precaution against raids from there.

British East Africa is a poor country—very much underdeveloped if one takes poverty to mean underdevelopment. The average per capita national income cannot have exceeded $25–$30 in 1949. Among 70 countries of the world for which we have data, only two, China and Indonesia, are estimated to have had average per capita incomes as low as this. Ours was $1,453. Of course there are a few rich people, mostly Europeans and Indians, practically all of them town dwellers, with a few plantation owners or operators. The largest city, Nairobi in Kenya, has only 140,000 people of all races; there are probably no more than 25 towns with populations exceeding 5,000; and so at least 97 percent of the population is rural, living on farms or in

small villages and hamlets. Poverty is suggested by the facts that British East Africa in 1948 had only one telephone per 1,000 people (we had 137 back in 1935); only two motor vehicles per 1,000 people (we had 207 in 1935); and circulated only three pieces of mail per 1,000 people (we circulated 161 pieces in 1935).

Poverty is clearly visible on a typical farm. A round hut with wattle and mud walls, grass thatched, without a window; a beaten-earth floor; a fireplace of three stones and no chimney; a couple of clay or metal cooking pots. No bed and blanket, table, or chair; no lamp; no closet; no crockery or eating utensils beyond a spoon; many naked children; a man with one pair of shorts and a tattered shirt; a woman with a windabout cotton blanket for her dress and her sleeping clothes; a chopping knife or two and a heavy iron hoe; hardly anything more.

With so few people living in towns, there is obviously very little manufacturing industry. British East Africa still imports all its cement, all its iron and steel and machinery, all its railway equipment and motor vehicles, bicycles, and paper; nearly all even of its cotton or woolen cloth and of its coal and petroleum and chemicals. There is no household industry even in textile making. Metal goods, machinery, and vehicles rank first in the import trade; textiles and clothing second; fuels and lubricants third. Together these three groups accounted for about three-quarters of the value of imports in 1949. The imports, so far as they do not represent inflow of foreign capital, were paid for by exports, chiefly of cotton lint and seed, sisal, and coffee. These three constituted nearly three-quarters of the value of total exports in 1949. After these, the export items ranking highest in value were hides and skins, diamonds, tea, gold, wattle extract, oilseeds and cake, pyrethrum, sodium

carbonate, and dried beans and peas. Hence the produce of plantations, farms, and mines pays for the imports of manufactured goods. The great bulk of the food supply is both produced and consumed within the region.

Excluding the few Europeans, who eat about as we do, and the few Indians, who eat about what is currently eaten in the rice-consuming parts of India, the natives tend to eat what they produce locally; and the food varies with climate and occupation. Native food production ranges from the output of fully settled agriculturists who have practically no livestock, through people who cultivate land but have considerable pasture and livestock, to people who do scarcely any cultivation but live as nomadic herdsmen. The food of the first group is some kind of mush, boiled or steamed, plus a stew made mainly of vegetables, including dried beans or peas, peanuts, cabbage or cauliflower or brussel sprouts, onions or leeks. There may be a piece of fish or meat in it occasionally. The mush is bland, the stew flavorful. Two meals are taken daily, at noon and in the evening, and they are not distinguishable as to constituents. Wherever the plantain, a type of banana, can be grown—mostly along the Equator, where there is no prolonged dry season and the total rain exceeds 50 inches a year—the basic mush is steamed plantain. Where the dry season is longer but not too long, the mush is made of ground and boiled corn meal or pounded whole corn. Where the dry season is still longer, or the wet season a brief one, finger millet is the basis of the mush. Sometimes cassava is the basis. The prevailing type of mush depends upon the prevailing amount and distribution of rainfall, which dictates what shall be produced.

The second group, having more livestock, has somewhat less mush and more stew—say several different side dishes

of stew. It has more milk and meat particularly. This group tends to practice shifting cultivation, clearing a piece of land and planting it for several years until the falling yield leads to abandonment and a new clearing.

The third group, the nomadic pastoralists, live mainly on milk and blood. They have little mush, since they are not producers of plantain or of grain. They are not very numerous—surely not a fifth of the total native agricultural population, and they tend to diminish. How numerous relatively the larger second and first groups may be is unknown. These disappearing pastoralists are only now beginning to learn to market live animals. It has been their tradition to regard cattle as wealth, not as income. With cattle they buy wives, polygamy being an accepted native institution.

In general, the native population lives only on the periphery of a money economy. Most items of native consumption, or at any rate the most valuable ones, are produced by the family for the family. There is of course some barter, some marketing for money, some purchase for money. Labor hired by Europeans or Indians is mostly paid in money, though food is often provided as part of the wages. Of all the currency in circulation in 1949, nearly a third was hard money (coin); natives have no way of keeping safe the paper notes, and they are said to prefer to bury the coin rather than to use banks, which few of them understand.

Regarded as a labor force, the native population is certainly an inefficient and generally unskilled one. As subsistence farmers, most of them do not yet understand, much less practice, the preservation of soil fertility through use even of the simplest crop rotations and fertilizers. They are not accustomed to combat soil erosion by terracing or contouring. About seed selection and insecticides they know next to nothing. Their cattle are runty, far from scientifically bred or

fed for meat or milk. The herdsmen do not even make hay to carry stock through the dry season.The level of literacy is very low, as must be expected in any poor country; the great mass of the adults can neither read nor write, and many cannot count. Not knowing their own ages, they are not helpful in a census giving age groups. There is only one collegiate institution in the whole country, very few secondary schools, and not enough elementary schools, and teachers, to accommodate more than a small fraction of the children of school age. Employees in homes and hotels, in mines and on plantations and railways, have to be taught the simplest operations. Plowing a straight furrow or setting a pole vertically seems either not to matter to most, or to be a new idea which must be learned. Sustained hard work for eight hours a day five days a week through the year is a scheme of life which very few have experienced. It is difficult for the European or Indian employer to build up a resident labor force, for the bulk of the natives like to work for a few months and then return to their farms and families. The labor is costly because it is so inefficient. Wages are naturally very low; in Uganda and parts of Tanganyika, an ordinary unskilled laborer, say for harvesting coffee or cotton, can be hired for 20 shillings—$3.00—a month, though it must be remembered that for such pay he does not work a full half a day, may hold two jobs, may work overtime for more wages.

There is much talk among employers and officials about the inefficiency of African labor. It commonly takes the form of assertion that "the African" is incapable of developing efficiency: that his commonly observed lack of skill and application represents inherent deficiency of capacity. Psychologists tell me, and I believe them, that no scientific proof of this exists. Beyond question one encounters individuals who *have* acquired skill, efficiency, and application, though they are

few relative to the mass. The question is, whether that proportion is growing. I think it is. It is more accurate to regard the present labor force as underdeveloped than as incapable of development.

Like the labor force, the natural resources are underdeveloped. Or so they appear to be, so far as one can judge on the basis of information about mineral deposits and soil quality which itself is decidedly sketchy. A great deal of unoccupied land looks to be suited to agricultural production; it certainly provides grazing for a vast amount of game. Perhaps appearances are deceiving; certainly the British were mistaken about the prospects for their groundnut scheme at one of the three locations, Kongwa. A great deal of what is now occupied could be better cultivated; there are known but untouched coal deposits thought to be susceptible of development; quite a little hydroelectric power could be harnessed; quite a bit of irrigation provided; known mineral deposits, of diamonds, copper, limestone, tin, iron ore, phosphate rock, at least, now modestly exploited, could be exploited further—if capital could be had and costs held to a competitive level. One cannot expect lumbering to become an important industry, however. There are few large stands of good timber. Most of the area consists either of open park-like woodland with short trees grading to brush, although some highland areas, mostly above 5,000 feet, are grassy plains, some of them fertile. Nairobi stands in one of these regions. Then there are other grassy steppes, less fertile and well watered, and hotter, at lower elevations. Unless it be in the northeastern part of Kenya, there are no deserts. That is the only part of the country where the average rainfall is less than 20 inches, and even there it is not as low as 10 inches.

Elsewhere the region has generally over 25 inches of an-

nual rainfall, with more than 50 inches in a rather large fraction of it. Uganda, and the parts of Kenya and Tanganyika nearest Lake Victoria, are the best-watered regions, partly because here the rainfall is not only ample but is fairly evenly distributed, with two low seasonal peaks and no protracted dry season. Farther north and east, and southeast down as far as the coastal stretches, the rainfall diminishes. Also it becomes less well distributed through the year, so that, the temperature always being high, the dry season is long. The terms winter and summer are practically meaningless at this equatorial latitude; natives probably do not even recognize the concepts as phenomena of temperature. What they experience are wet and dry seasons, not warm and cold. The crops grow, of course, only in the wet season. There are two main drainage basins—toward Lakes Victoria and Tanganyika and Nyasa on the west, and thence north to the Mediterranean through the Nile and south through the Zambezi to the Indian Ocean; and, on the east, toward the Indian Ocean by way of streams which are not navigable. The big lakes are the only inland waterways. These lakes support quite a native fishing industry, a crude one but providing excellent eating fish, the Tilapia. This very separation of drainage basins implies a chain of highlands; in fact, no little fraction of the whole area is above 5,000 feet in elevation; Lake Victoria itself is at 3,700 feet; and a very large proportion of the region is above 3,000 feet. Elevation makes the climate more tolerable for living than otherwise it would be. If one likes warm but not hot days, cool but not cold nights, rainfall dependable both by the month and by the day, the west shore of Lake Victoria is to be recommended.

The climate involves hazards to economic development of various sorts. Not only does the rain fall in large total volume; it falls in lumps often of cloudburst proportions. It is

difficult to build and to maintain railroads, roads, and bridges. Unsurfaced roads readily passable in dry weather become impassable bogs after heavy rains, and washouts are then common. Soils erode easily when cultivated, especially on the sharper slopes; and much of the terrain is of that sort. It so happens, too, that water in many places sinks far underground rather quickly. Hence during the long dry season in many parts, surface water disappears and wells must be deep, over 100 feet, thus beyond the range of crude native digging. This hampers settlement and is a hazard to animal husbandry. Also, the annual rainfall seems to be highly variable in the less well-watered regions, so that local crop failure, and famine, has to be faced now and then. The warm climate favors insects, and therefore birds which devour crops, and many types of plant diseases. The termite is nearly everywhere, a foe to wood, a builder of six-foot mounds. Because of it, railway ties need to be of metal and so do telegraph poles, and fields are not easily plowed. The tse-tse fly is widespread although it has not penetrated everywhere. The sleeping sickness conveyed by it is a menace to cattle—hence to farm draft power—and a danger to man. Malaria is rampant, ticks very common. All told, along with unsanitary conditions generally, there are high human death rates among the native population, notably the very young, and among the most valuable domestic animals, the cattle and the horses.

Whether or not because climate, and terrain too, make difficulties for transportation, the system is meagerly developed. Two steamships, built abroad but assembled locally after the parts were hauled in 700 miles by rail, regularly ply the circuit of Lake Victoria. They are quite inadequate even for present traffic. Of railroads there are only two connecting the inland lakes and the Indian Ocean: one north-

westward from Mombasa across Kenya through Nairobi and thence to Kampala in Uganda on the northwest shore of Lake Victoria, branching to Kisuma on the northeast shore. It has a few rather short feeders. The other cross-country one goes westward from Dar-es-Salaam in Tanganyika to Kigoma on Lake Tanganyika. It has a long branch going northward to Lake Victoria. Then there is another railway, not cross-country; it moves inland northwesterly from Tanga to Moshi at the foot of Mount Kilimanjaro, and has a connection with the Mombasa-Nairobi line. Some new bits have been built probing westward in Uganda, and from the coast of southern Tanganyika inland to one of the groundnut-scheme locations, Nachingwea. But a huge fraction of the territory lies more than 50 miles from any railway. There is no access by rail to the Atlantic Ocean, or to the Mediterranean. If the coal deposits in southwestern Tanganyika are good, I suppose that some 350 miles of railway will have to be built to tap it at all, to say nothing of more miles to distribute it. All railways are narrow-gauge, and all have more traffic than they can handle expeditiously.

There may be as many as 500 miles of hard-surfaced, all-weather road in the whole vast region, counting the paved streets in towns. The rest are dirt: in Uganda, a good dirt which packs hard and sheds or percolates water; elsewhere, sand or loam or clay very bad in the wet season. Great numbers of peasant farmers do not live within five miles of a road. With nothing but their heads or backs for carrying produce to market—if the local market is near enough to a railroad to send any produce out—the incentive to produce beyond family subsistence cannot be strong. But the incentive to buy a bicycle appears to be substantial.

So much for the picture. It may appear dismal. But it is not a picture of a dense and hard-working and reasonably

skilled population pressing against confines of meager natural resources already well exploited. There is, I think, much scope for economic expansion with development of both human and natural resources simultaneously. This is happening now. A great dam is being built across the Nile where it leaves Lake Victoria, at Jinga; it will provide electric power for northern Uganda. Some of the power will be used in a huge cement plant now nearing completion, near Tororo at the Kenya-Uganda border. It is contemplated to build, at that site, a huge steel works using local iron ore, and a phosphate-fertilizer factory. A railroad stretching westward across Uganda, opening up new territory and facilitating copper mining, is approved in principle. Another railway extension is committed in southeastern Tanganyika, and further extension so as to touch the coal deposits and span the continent is being considered with aid of American ECA funds. There are some four million dollars of ECA funds now available for road-building. Several other hydroelectric works are under serious consideration. Coal deposits, not only in southwestern Tanganyika but in Kenya, are being closely examined. Building activity in the cities is proceeding at a great rate, visible to anybody. Cotton spinning and weaving has made a successful start and is expanding.

Also one sees natives who have learned to be capable mechanics, foremen in construction and on plantations; owners and managers of small repair shops, tailoring establishments, and retail stores; clerks and policemen and soldiers in the government services; teachers and nurses. That labor efficiency can rise is indicated by the statement that within five years a cotton-weaving mill changed the labor requirement from one loom to three laborers to two looms to one laborer: a great advance, but still far from European or American labor efficiency.

In the sphere of native agriculture, which is so dominant that it must improve if economic advancement is to become generalized, progress is to be seen. The production of native cash crops, notably cotton and coffee, has made a good start; and minor cash crops such as sisal, wattle bark, corn, and garden vegetables, have come in. These developments are of course close to the railways and the towns; they are not generalized. One sees here and there that natives who five years ago could not use a plow have now learned to harness their oxen to it; that some have learned the rudiments of systematic preparation and use of compost; that others have accepted a simple crop rotation, two years of crop and one of grass; that others have learned to terrace or contour their farms against erosion. The nomadic herdsmen have begun to learn the use of money, and to recognize the advantages of selling cattle in good condition rather than in poor condition or not selling at all. Joint efforts of government and of natives are resulting in more and more small dams and drilled wells, thus spreading the range of land occupancy. Schools are being built, sometimes even with the aid of volunteered native funds; teachers, nurses, midwives, are being trained. Science has given the clue to freeing land of tse-tse fly at costs not too burdensome in some places, and some substantial clearings are in process. There can be no question that economic expansion is occurring, per capita national income and general level of consumption tending to rise.

The problem of sustaining or increasing the present pace of advancement is too complex for me, perhaps for anybody, to solve. I carried away the conviction that development of the system of transportation is a crying need. It is not neglected now. But it may well deserve a larger degree of priority over industrial ventures, general education, agricultural or technical education, medical and sanitary services, par-

ticipation of natives in government. All must proceed together; the problem is one of proper emphasis, not of exclusion or inclusion. But from an economic point of view greater productivity of labor is the essential thing, and I think that adequate transport is basic to it. People and produce must be moved about much more widely and more cheaply. I can think of no better way to stimulate native or non-native production of cash crops for food or for export, or to stimulate mining by reducing marketing costs and opening up labor supplies, or to facilitate similarly production and trade in manufactured goods, or to make attractive the investment of foreign capital in the region. There may be questions about how much rail and how much hard-surfaced road; about governmental or private investment or how to combine them; about immediate profitableness. It will be a pity if discussion of those questions should slacken the pace of actual construction of communications. Without a rapid pace in that field, I do not see how the general pace can be other than pretty slow.

The pace of economic advancement depends considerably upon governmental policies and decisions, not only of the railway and harbor monopoly and of the departments of public works. It makes a difference to the speed of land settlement and mining ventures by Europeans whether leases —ownership in fee simple is out of the question—are granted rapidly or slowly and for long or short terms; government must decide. It makes a difference to investors whether policy is to move slowly, rapidly, or not at all in the direction of political independence, presumably with native political control, of the whole area. It makes a difference whether policy is to preserve native institutions and cultures or to Europeanize them. At the moment a particular policy of general self-sufficiency in foodstuffs for East Africa, justi-

fiable at present on grounds of strategy, uncertainty of international trade movements, and the inadequacy of internal transport and storage, is being translated into district and even individual-farm self-sufficiency in food. So translated, it tends to restrain economic development. No doubt policies in these directions, and others too, will shift with changing circumstances internally and externally. But how they will shift, and with what effects upon economic development, remains to be said by someone who has greater powers than mine for probing the future.

MERRILL KELLEY BENNETT

A FOOTNOTE TO PHILOSOPHY AT MID-CENTURY*

THE twentieth century has run slightly more than half its course. At mid-century, as at century's end, it is natural to pause for a backward and a forward glance. For we often best understand our present situation, with its impending tasks and future prospects, by looking back over the road by which we reached the place where we now stand. I have called this talk a *footnote* not only because it is a reflective aside, a comment made on the main text in passing, but also because it disregards the full range of the larger problem in favor of concentrating on a single interesting feature of the history of philosophy in the last fifty years. I would not be understood to suggest that this feature is itself of minor significance. We shall see that it tempts us to project the rather bold hypothesis that the first quarter of this century witnessed the culmination of the long effort of modern philosophy to achieve a stable understanding of scientific knowledge. But the price of concentration is omission, and very little is said about ideas, such, for example, as Whitehead's, which may be more prophetic of the philosophical future than those about which I have more to say.

In philosophy the past fifty years may stand alone in one respect. Perhaps there has never been a like interval of time in which so many men, so learned in many things, so sophisticated intellectually, so alert to alternatives, so wary of prejudice and precipitate judgment, so diligent and skillful in argument, have engaged in so many kinds of philosophi-

* A public lecture delivered at the Rice Institute on October 21, 1951.

cal inquiry. In numbers involved, in variety of interests, in range of accurate information, the philosophical activity of our century commands respect. Scholars have fruitfully cultivated all the traditional fields of philosophy: logic, epistemology, ethics, aesthetics, metaphysics, the history of philosophy. There have also been specialists in a host of philosophies-of, such as the philosophy of history, of religion, of education, of science, of language.

Not only quantitatively but also qualitatively, the general level of technical performance has been high. To record the names of all able philosophers of Europe, Britain, and the Americas who have earned a sound reputation among their colleagues would make a very long list. The true touchstone of an epoch, however, is not so much the general level of performance as the peaks of attainment. To borrow a figure of which my colleague, Mr. Tsanoff, is fond—mountain ranges, however high, have eminences which stand out above the rest. They are what catch the eye and give form and identity to the entire range. The weather, if not the climate, of opinion makes up amidst these high peaks. From them the winds of doctrine blow that sweep foothill and plain below. Our century has great peaks as well as high plateaus. A small number of philosophical minds of infectious originality have influenced the thinking of all their contemporaries. In this respect also it has been a significant time.

Let us make a list of the most prominent figures. It will include William James, Henri Bergson, Benedetto Croce, John Dewey, Bertrand Russell, Alfred North Whitehead.[1] These, incidentally, are names familiar to everybody. Almost any educated person could have named them as readily as a professional in philosophy. Shall we add others to the list? Perhaps, Edmund Husserl, whose phenomenological

movement was probably the most original and powerful in German philosophy of this century? Ought we to include Bernard Bosanquet, a skillful advocate of idealism during the early years of the century?

The exact list does not matter. But the more we think about it, the more conspicuously does a certain peculiar feature stand out. Consider: James, born in 1842, was fifty-eight in 1900. If he belongs to this century, it is only because he did much of his philosophical writing in the decade before his death in 1910. Bergson and Dewey were already in early middle age at the turn of the century, both having been born in 1859, the year in which Darwin published *The Origin of Species.* Whitehead was only two years younger. Croce had reached his middle thirties by 1900, and the youngest, Russell, was already twenty-eight. Every preeminent philosopher of the twentieth century had completed his formal education before the end of the nineteenth. Every one of them had fully established his philosophical importance by 1929 at the latest. No philosopher of comparable magnitude has appeared in the last twenty-five years, though original work of a high order has not been lacking in many special fields.

While there is no reason to expect men of genius to appear in even-paced succession, like soldiers in a file, the absence of figures of first rank makes the second quarter-century seem rather unproductive as compared with the fertile first quarter. This may, of course, be an illusion resulting from a trick of historical perspective. The mountain peak ordinarily comes into view and exhibits its rugged identity only at a distance. We may not appreciate the importance of some current philosopher simply because we stand too close to him. Moreover, as we grow older we tend to admire *past* originality more than *present* inno-

vation. Such doubts as these serve as useful warnings against dogmatism; yet they do not suffice to show that the disproportion between the two quarters of our century is wholly illusory. When Dewey's *Experience and Nature* appeared in 1925 (second edition 1929), nobody had any doubt that here was a definitive statement of a major philosophical alternative. The same may be said even more emphatically of *Process and Reality* (1929), which immediately secured for Whitehead, already admired and famous, a permanent place among the great philosophers, perhaps of all time. Able and even distinguished work has been done in more recent years, but nothing with such breadth and such penetration that it seems to cast light into the darkest corners of our philosophical ignorance.

One has the feeling that a good many people to-day would regard this turn of events with approval. They would welcome it as evidence of growing intellectual maturity. It would suggest to them that the scientific revolution had at last completed itself in the way expected by Auguste Comte, so that old-style philosophy is suffering, as it were, from technological unemployment. Comte held, you will recall, that human thinking progresses through three stages: the theological, the metaphysical, the scientific. A vigorous movement of the last two or three decades has done all in its power to empty philosophy of what it considers "metaphysical" questions and restrict it to the analysis of language, the instrument of expression and communication. But one does not need to go so far in order to appreciate the effect that the increased range and precision of scientific knowledge has had on philosophical ambition. Throughout this century, philosophy has tended to grow more specialized and to rely upon increasingly technical methods. Its solutions have not come wholesale, if they ever did, but

have had to be paid for bit by bit in hard, small coin. Intensive preoccupation with minute questions reflects an aversion to the apparently ineffectual methods of ordinary disputation, but it also affirms the unmanageable range of modern knowledge. One man can hardly survey, let alone master, the facts and ideas which are relevant to any broad philosophical construction. The sciences have held before our eyes a more and more significant model of warranted knowledge; they confront us with a high standard of critical caution and intellectual integrity, which in some ways is even more impressive than the vast amount of information which they provide. Philosophers have had good reason to grow more diffident and to confine attention to limited problems which seem capable of definite solution. Thus does minute analysis tend to replace large construction.

We must also acknowledge that a period which saw the depression, the incredibly deliberate attempt of the Nazis in Germany to destroy the moral sinews of European civilization, the Second World War, the subsequent cold war, and now the Korean war—such a period is not exactly conducive to reflective thinking. We have suffered less than many others; but recurrent crises have compelled us repeatedly to mobilize most of our mental as well as our material resources. Even if the individual philosopher succeeds in preserving his detachment in the midst of excitements, perpetual anxiety effectually deprives him of a responsive general audience.

Whatever value we may attach to these various considerations, they do not, I think, tell the whole story. They are one and all peripheral to the central philosophical effort. This has its own compelling rhythm, and the first quarter of the twentieth century seems to mark one of its culminating moments. The long, persistent attack upon some of the

most pressing problems of modern philosophy reached conclusions that are, at least temporarily, satisfactory, so satisfactory that further effort has not produced further insights of comparable generality with respect to the same problems.

It is not well to be dogmatic about matters of this kind, but what seems to me to have happened is this. Modern science reached the full vigor of its maturity in this century, and modern philosophy, which always has been the philosophy of the new science and the scientific revolution, matured with it. The advance of science made its criteria, methods, and objectives increasingly plain, so that a philosophical understanding of science became possible without borrowing insights from other modes of belief and other forms of intellectual activity. The first quarter-century brought this understanding to a point that has left little for the second quarter to do but consolidate the gains.

Many persons would take issue with this interpretation. We do not claim for it such certainty as the evaluation of a complex historical epoch clearly cannot possess. Impressive considerations, nevertheless, make the idea attractive. While this is not an appropriate occasion to fill in the technical details, further explanation is in order.

The first step is to widen the historical perspective, so that we no longer treat the years of our century as if they stood miraculously dissociated from the past. This does not require us to jump rashly from the frying pan of doubtful interpretations of matters of common knowledge into the roaring fires of historical speculation. What is needed is a stabilizing context. Modern philosophy, we remarked above, is preeminently the philosophy of the scientific revolution. We must now attempt to obtain an understanding of what that means; otherwise, there is little prospect of getting our century into a clear light, since science unques-

tionably has stood at the very center of its philosophic interest. Most of its important achievements have been associated with innovations in pure logic and in epistemology, the branch of philosophy which critically inquires into the sources and structures of valid knowledge, particularly as embodied in the sciences. In this respect our period is the legitimate heir of its past. Hence, to glance briefly at the scientific revolution itself, the main source of the philosophic tensions of the whole modern age, will more than repay the time it takes.

An effort of imagination is necessary. So accustomed are we to the ideas and surroundings which have resulted from scientific investigation, that we are likely to accept our world as simple, obvious, natural, and inevitable. If anybody should ask us point-blank about it, perhaps we would hedge a little and concede some of the difficulties which this development had to overcome. Our real opinion, nevertheless, is likely to show itself in an air of condescension toward men of former centuries, as if we could not comprehend how anybody could have been so dull and resistant to the truth as to think otherwise than we now do. Although the revolution in opinions which science has brought about has come as slowly and painfully as the accompanying social changes, it now takes effort to appreciate the magnitude of the changes that have taken place in men's ideas.

In this connection, let me read, with irrelevant omissions, a vivid passage from a recent book on *The Origins of Modern Science* by Herbert Butterfield, a Cambridge historian.

> . . . when we of the year 1949 take our perspective of the scientific revolution—we are in a position to see its implications at the present day much more clearly than the men who

> flourished fifty or even twenty years before us. And . . . it is not we who are under an optical illusion—reading the present back into the past—for the things that have been revealed in the 1940s merely bring out more vividly the vast importance of the turn which the world took three hundred years ago, in the days of the scientific revolution. We can see why our predecessors were less conscious of the significance of the seventeenth century—why they talked so much more of the Renaissance or the eighteenth-century Enlightenment, for example . . . Our Graeco-Roman roots and our Christian heritage were so profound—so central to all our thinking—that it has required centuries of pulls and pressures, and almost a conflict of civilizations in our very midst, to make it clear that the center had shifted. . . . The very strength of our conviction that ours was a Graeco-Roman civilization—the very way in which we allowed the art-historians and the philologists to make us think that this thing which we call "the modern world" was the product of the Renaissance—the inelasticity of our historical concepts, in fact—helped to conceal the radical nature of the changes that had taken place and the colossal possibilities that lay in the seeds sown by the seventeenth century. The seventeenth century, indeed, did not merely bring a new factor into history, in the way we often assume—one that must just be added, so to speak, to the other permanent factors. The new factor immediately began to elbow at the other ones, pushing them out of their places—and, indeed, began immediately to seek control of the rest, as the apostles of the new movement had declared their intention of doing from the very start. The result was the emergence of a kind of Western civilization which when transmitted to Japan operates on tradition there as it operates on tradition here—dissolving it and having eyes for nothing save a future of brave new worlds. It was a civilization that could cut itself away from the Graeco-Roman heritage in general, away from Christianity itself—only too confident in its power to exist independent of anything of the kind. We know now that what was emerging towards the end of the seventeenth century was a civilization exhilaratingly new perhaps, but strange as Nineveh and Babylon. That is why, since the rise of Christianity, there is no landmark in history that is worthy to be compared with this.[2]

Before making use of this passage for my own purposes, let me pause to remark that Butterfield is writing as a historian whose business is to record and interpret historic

changes, not to approve or condemn them. Moreover, his views do not necessarily coincide with my own in every respect.

The revolutionary men of the seventeenth century, those whom Butterfield called the "apostles" of the movement, understood intuitively what was afoot. Both those whose fame is mainly scientific and those whose fame is mainly philosophic sensed that one type of mind was being destroyed by a new type which was coming into being to take its place. That is the meaning both of Francis Bacon's famous doctrine of the idols of the mind and of Descartes' method of systematic doubt. Both men perceived that *new* truth was needed and a new method to discover it. Both understood that nothing worth while could be done unless the preconceptions which cluttered the mind were first uprooted—the old, habitual ways of thinking about things, the rigid customs of conservative thought. As long as old ideas prevail, they thought, everything will be forced into the same old molds and nobody will learn anything new and true about nature.

The revolutionary men of the seventeenth century were intuitively certain also that the new minds would make a new world. Bacon sought a new knowledge that could be put to use in the service of men's every-day needs; he was certain that genuine knowledge was power and would improve the ordinary lot of mankind. Even the vastly more intellectual Descartes valued the new learning hardly less for its utility than for its truth. A new world was somehow coming into being, and these men were assisting enthusiastically at its birth, although, I dare say, they had not the faintest suspicion that it would be as "strange as Nineveh and Babylon." They could hardly have failed to think of the new science, as most of us continue to do, in just the

way that Butterfield rejects. They must have considered science to be a new factor—albeit a dominant one—alongside the rest, and may have had an inadequate appreciation of the full extent to which a new way of investigating nature would transform all habits of thought and many types of behavior, as well as the material circumstances of men's lives. For all his assiduously cultivated doubt, Descartes expected to recover, and in the end thought he had recovered, many of the theological essentials of medieval thought.

Although the apostles of the new learning had a correct premonition of the future, it does not follow that they could themselves give a correct account of the revolutionary new factor in civilization. It is one thing to be hopefully aware of the general direction of a vigorous trend in human affairs, and quite another thing to understand its nature correctly, its real mode of operation, and its full implications for the civilization which fosters it. In fact, exactly to the extent that the new science was really new and unprecedented, there was no genuine possibility of understanding it at all. I recall hearing Mr. Alex Keiller, who directed the restoration of the great prehistoric sanctuary at Avebury, in England, say that archeologists took comparatively little interest in Stonehenge, because it is unique. And something similar may be said of the scientific movement at the beginning. In so far as it was really new, it was unique, and its interpreters had nothing to go on. They simply did not possess the stock of ideas and the variety of experience which were required for elucidating its nature.

That is not the worst of it. Science itself hardly existed as yet. It had to be hewn chip by chip out of the unknown by men who lived—methodologically speaking—from hand to mouth. They had to attack particular problems by any methods they could beg, borrow, or steal—or rather, *invent.*

Only gradually, as particular successes coalesced into mutually supporting patterns did this new factor in civilization take on an easily recognizable shape for philosophical analysis. Meanwhile, men did what they always do under such circumstances: having no alternative, they interpreted the new with the aid of whatever analogies lay at hand. Bacon and Locke generalized the inductive appeal to the facts of experience; Descartes generalized the new analytical techniques of a rapidly developing mathematics. Descartes saw science as what we would to-day call a deductive system: that is, a series of conclusive proofs derived ultimately from axiomatic principles. Locke considered knowledge to consist in the recognition of the relations holding among ideas which reflect experienced realities. The advancement of science itself was needed to show how far both views missed the mark.

If, as Butterfield observes, the twentieth century historian occupies a favored position with respect to the scientific revolution, the twentieth century philosopher occupies a no less favored position with respect to the mature scientific establishment, which is the now familiar result of that revolution. Thus, if the men of the present century have found comparatively stable solutions to some of the persistent questions of modern philosophy, this happy achievement need occasion no great surprise. Moreover, as long as science continues to work steadily at its problems in the same general way without undergoing some unforeseeable mutation, there is no reason to expect these solutions to lose their relevance. They are obscure in some respects and are undoubtedly capable of further refinement. For example, much remains to be done in the detailed adjustment of philosophic ideas to the particular concepts and methods current in various branches of science. This has been per-

haps the most fruitful task of specialists in what we have begun in the last twenty-five years to call the philosophy of science, although the term reflects rather a new interest than new problems or basically new solutions. The study of logical or epistemological problems associated with specific aspects of physical theory, for example, goes back at least as far as Mach in the last century and Poincaré in the early years of the present century. And the revolution in physics in the last fifty years supplied a new and compelling motive for intensifying the philosophic study of particular scientific concepts. It did so for the exceedingly good reason that it was itself associated with certain epistemological problems at the foundations of classical physics. The revolution in physics brought modern science to a fuller maturity partly because it explicitly recognized these problems. Thus it was not inappropriate to devote a volume to Einstein in the *Library of Living Philosophers*, a distinguished series edited at Northwestern University by Paul Arthur Schilpp.

To say that in the first quarter of this century philosophers reached a substantial solution to one of the persistent problems of modern philosophy does not mean that they must henceforth cherish an eternal truth with dogmatic tenacity. To suggest, however, that they have reached a solution of any kind—tentative and conditioned by vagaries of current scientific practice though it may be—is likely to be greeted with suspicion, if not with downright disbelief. Thus it is important to explain the alleged solution.

This is not easy to do, because the issues are frequently subtle. An account simple enough to be intelligible runs the risk of making things seem too easy. But let us recall what was said a moment ago about the effort of sympathetic imagination that is needed if we are to see through the eyes of our predecessors. Once we have accustomed ourselves to

seeing things in a certain way, particularly if we think there are obvious empirical grounds for doing so, we wonder how really intelligent men could have failed to get the point. And we still wonder with one half of our minds, even when we know with the other half that the nineteenth century had to produce two or three achievements of the first rank in mathematics, logic, and empirical science, before the best minds at the beginning of our century could have seen what they have taught the rest of us to take for granted by now.

What we have been made to see with new eyes is, in a word, man's remarkable powers of free, intellectual invention and his dependence on those powers for his ability to discover the *independent* order of nature. Without this creative, original activity by which the mind runs ahead of experience with ideas of structures more exact than any it finds, the inquisitive man would have no powerful methods for obtaining reliable knowledge of the objective, mutual relevance of events. Events run their course, stolidly indifferent to the inventions of the intellect. Without the inventions, however, knowledge, particularly the delicately articulated systems of exact science, would not be possible. Anyone familiar with the history of ideas will recall that Kant said something like this almost one hundred and seventy-five years ago. Kant dressed his ideas up in quaint eighteenth century styles, which sometimes obscured the figure underneath. Men of our century had to re-think the problems, but they had the equipment with which to do so. They approached the task both with new methods of abstract analysis and with a more concrete, historical conception of man.

Consider the latter. Under the impact of Darwinian ideas, it became difficult to think of man except as an animal try-

ing, just like every other animal, to get along. He had serious handicaps, having lost the decent animal habit of growing clothes on his back. He had also lost the efficient simian ability to climb about in the comparative safety of treetops. He did not even have strong claws or good teeth. He had to live by his wits, or he would not live at all. Here lay his unique opportunity. When his ancestors swapped fur for brain, it was the best trade an animal ever made. He had come into possession of the bodily organ that would enable him to overrun the earth. Animal intelligence was raised to a higher power. For humans have an abnormally long span of anticipation, and this implies exceptional power to control the turn of events in their own interest. Every animal with distance receptors—eye, ear, nose—has time to take action to prevent calamity or to capture prey. He learns to anticipate the future in terms of the present witness of his senses. The fox flees the hounds' voice and confuses his trail; the lion circles into the wind to stalk his prey; the mother woodcock feigns a broken wing to draw an intruder away from the nest. Man, however, does not, like lion or wolf, merely follow where his game leads; he makes his prey stay put and becomes the master of domesticated herds. He does not merely gather nuts, seeds, and fruits in season; planting at the proper time, he grows them and becomes a tender of fields. He learns to control fire, to make tools and utensils, and finally to exchange goods in peaceful trade. Most important of all, however, he does not merely excel every other animal in reading natural signs, but he learns to control the production of *signs* themselves. He cultivates the ability to communicate by means of articulate noises and comes into possession of language, which fixes and stabilizes the significant aspects of shifting experience and confers upon each generation the long learning of the tribe. Finally, writing catches

the wind of the voice and immortalizes memory in stone.

Such is man, the animal that has created science for his uses. In a way no other animal can follow, he has learned to read nature's signs more exactly with the aid of artful signs of his own contriving. He has learned also to experiment, that is, to control the conditions under which events unfold their natural consequences, so that he can both anticipate and control the outcome of given situations. Viewed in an evolutionary perspective, science is concerned not with the past or the static, but with the future, to which alone action is relevant. Ideas are thus not conceived as copying anything, as if reality were obliging enough to sit for its portrait. Ideas are projections of the mind into the future of a fluent reality. They are phases of action, purposeful designs, farsighted forms of the animal cunning by which we manage to survive in a hard world. Ideas copy nothing fixed and abiding. They anticipate a doubtful future and provide a bridge by which action may more freely pass from one situation to another. They are said to be true when we have good warrant for trusting ourselves to their guidance.

Everyone will have recognized the foregoing remarks as an impressionistic portrait of the kind of view which John Dewey has advocated throughout this century with impressive skill and enthusiasm. It does not much matter if in some respects the likeness is not exact. The important thing for our purpose is the insistence that ideas do not copy *past* experience, as the earlier empiricists imagined, but are invented devices, instruments of action, which the organism has forged in the effort to thrive. Ideas have a history, a time when they first came into use or were remodelled. They are not, according to this account, fixed functions of pure reason, as if we were miraculously in possession of a

somewhat faded transcript of God's design for creation. We do not have ideas because we are rational; on the contrary, we have reason only in so far as our ideas are kept in intelligent adjustment to the demands of action. Science is just the art of keeping our ideas intelligently close to actual experience. Dewey calls this art "inquiry"; it has its special skills and techniques like any other high craft.

Since cooperation and communication are essential to human success, the evolutionary way of looking at things brings language into prominence. But language must serve two rather different purposes in a scientific age. It must provide both a flexible means of communication and a necessary tool of intellectual analysis. The latter aspect of language is that which formal logic has always singled out for special attention, formal logic being the study of valid argument and correct inference in general. The mention of this subject brings us at once to a different set of nineteenth century ideas and a different and even more remarkable movement of twentieth century thought.

It brings us, in a word, to the *Principia Mathematica* of Bertrand Russell and A. N. Whitehead, the three volumes of which appeared from 1910 to 1913. Though the outcome of a considerable movement reaching back to the middle of the previous century, and inconceivable but for several earlier mathematical and logical achievements, this work at once served notice that logic had at last caught up with the modern age. The immediate result was a remarkable burst of logical investigation all over the world. The ideas of *Principia Mathematica* are much too technical for even cursory explanation. But let us not forget what we are supposed to be talking about: the inventive freedom of the human intellect. What this work gave to the world was a whole new, incomparably more versatile formal logic, a new

technique of analyzing our ideas or meanings, and a new logical language, spare and lean, but athletic and precise, invented for the sole purpose of facilitating the analytic function of language.

These developments brought recognition throughout the world that logical rigor was not confined to the traditional syllogism or to the established branches of mathematics but could be achieved in an indefinite number of ways. Logic suddenly acquired a plural, and it was fashionable for a time to speak of various logics. Make any assumptions and lay down any rules or stipulations you choose, then you will not go astray logically as long as you stick to the assumptions with which you start. Given this wonderful freedom of stipulation, the deduction of indefinitely many logically tight systems become a theoretical possibility. Plainly, our ideas are not, strictly speaking, copies of anything, either in experience or in the nature of our reason; they are inventions and free constructions.

The two philosophic trends which we have been broadly tracing meet here and go on together in rather remarkable mutual support. For there is an aspect of free invention in the logical texture of our systematic knowledge. The ability to infer from a present situation to future possibilities depends upon an organization of experience in terms of some logical structure. But the choice of a particular abstract system to use in interpreting experience reflects the tastes and purposes of the investigator. He is likely to have a strong preference for simplicity, convenience, and symmetry in his theories. These values are practical and aesthetic rather than cognitive. The scientific investigator desires to get ahead with his work and quite sensibly chooses the methods, including the logical methods, which seem to promise solution of his problems with the greatest economy of effort.

The successful solution, of course, is not a matter of choice; it depends entirely upon empirical confirmation of the abstract scheme by means of which the scientist tries to describe the facts. And there is only one way, in general, to obtain adequate confirmation. First we have to figure out what logically must happen if the theory holds under certain specific conditions, and we then must provide those conditions and see what actually does happen. If things happen as expected, the theory is so far confirmed; if things happen in some other way, then some correction must be made somewhere. Sometimes the theory must be abandoned and another one put in its place, as when non-Euclidean geometry replaced Euclidean geometry in certain branches of physics during this century.

The center of this procedure is exact prediction, and that is a strictly logical procedure, a deduction from assumed premises. Apart from logic and the rigid necessities of consistent thinking, prediction becomes sheer guesswork, and we cannot really judge whether experience confirms our theories or not. The growing mastery of analytical techniques (formal logic and pure mathematics) supplies an increasing repertory of terms in which to undertake the description of nature. Analytic reasoning gives us that purchase on necessity without which we cannot accurately detect objective events and relations. Thus it has come to be generally recognized that a logical model is what counts, not a pictorial model or a mechanical one. The logical model counts precisely because it is logical, is an abstract system of necessary relationships, which enables us to determine exactly what else would be so if the assumptions of the given system were so. Whether the model correctly represents the structure of actual events is a question for properly contrived experience to answer. But without exact terms and rigorous

methods of inference, experience gives us no precise instruction. Experience does not automatically supply correct terms for its own interpretation. These are conceptual schemes, the products of free logical activity.

Confirmation of this has been a commonplace of physicists' practice for years. Some specialize in abstract ideas relevant to physical facts and are called theoretical physicists. Others are experimental physicists who explore the facts with the help of abstract ideas. It may be added that for thirty-five or forty years Russell has maintained, in theory though not invariably in practice, that philosophy should confine itself to logical analysis, and thus stand to science or empirical knowledge in general as theoretical physics stands to experimental physics. A not dissimilar view has also been more recently advocated by the influential movement known as logical positivism or logical empiricism. The most extraordinary fruit of this movement during the past two decades is the intensive study of meanings and the problem of communication, which goes by the name of semantics. Rudolf Carnap's study of pure semantics, *The Logical Syntax of Language*, is the outstanding work in this field.

The pragmatic and analytic movements developed independently and even antagonistically; nevertheless, they have, as we saw, converged to a meeting at one point at least. The way in which they complement each other is now generally understood, and the main contentions of these two approaches to the problem of knowledge are taken for granted by almost everybody today, whatever other differences may divide them. C. I. Lewis was one of the first to appreciate this situation fully. His two books, *Mind and the World-Order* (1929) and *The Analysis of Knowledge and Valuation* (1947), are, to my mind, the most informative studies that have been made of it.

Because of the broad and basic agreement that now exists with respect to the general nature of scientific knowledge, I suggest that the philosophers, particularly of the first quarter of this century, did their work with telling effect. Discussion tends more and more to confine itself to technical matters of interest to specialists only. Meanwhile, the swirling center of philosophical doubt has moved onward from the problems of knowledge to the problems of practice.

Let us recall Butterfield's picture of modern science. It had two sides: science made a new mind and a new world to go with it; science also dissolved an ancient tradition. It did not merely add a new factor for civilization to assimilate. It invaded all our thinking, elbowing the old allegiances aside and claiming hegemony over the whole mind. This is an extreme view, but, if Butterfield is right, science has dissolved both the Classic and the Christian heritage of the Western World. A science that claims the whole mind tacitly projects a complete philosophy, which provides the frame of reference for the intelligent direction of life. It may be doubted that this philosophy has yet received an adequate presentation, though this was preeminently the task which Whitehead set himself as a philosopher. Nobody in recent years has worked as heroically as he did to prepare a vision of the world that would allow a man to dwell in it with his entire self in our century, and be at home intellectually, aesthetically, and practically. His best pupils, such men as Charles Hartshorne and Paul Weiss, have continued to work in this spirit. But the main body of philosophers have not dared to follow his majestic example.

Instead, some have sought stability by returning to a venerable pre-scientific tradition, and neo-Thomism has played a vigorous role in the most recent history of thought. Others have anchored their thinking to the indefeasible

reality of the personal life of each individual and have brought Kierkegaard, a nineteenth century Danish religious philosopher, back to life in translations and scholarly studies. But not all who attempt this find their way to Kierkegaard's devout conclusions; they may move toward Heidegger's existentialism or toward that of Sartre. Still others, apparently the majority in this country and England in the last few years, attack ethical problems with the equipment and ideas that proved servicable in epistemology.

The outcome remains to be seen. The task immediatly before us, however, seems plain. It is to re-think with our twentieth-century minds the perennial questions of human existence. We must work toward the goal that Whitehead set himself, a new synthesis, a total articulation of insights. This will enable us to be faithful and resolute in action because we are emotionally and intellectually at peace with ourselves.

Anything less than this may deliver us over to a conflict of mere ideologies, which are only a thin veneer on the struggle for power.

JAMES STREET FULTON

NOTES

1. In preparing this list, I have derived great help from discussion with my colleague, Professor Radoslav A. Tsanoff. While I believe the list includes no name which he would find unacceptable, he should not be held responsible for the list as here given.
2. Herbert Butterfield, *The Origins of Modern Science, 1300-1800* (New York, The Macmillan Company, 1951), pp. 147-149. This passage is quoted with the kind permission of the publishers.

CLASS DISTINCTIONS IN EIGHTH CENTURY ITALY*

I

ITALY in the eighth century was dominated by the Lombards, whose kingdom centered in the Po Valley around their capital city of Pavia. But although the Lombards in the eighth century were the most important single political element in the peninsula, they were never the only power. The Eastern Roman or Byzantine Empire continued to control a small area around the old Roman city of Ravenna, and in addition, the Byzantines continued to control small amounts of territory in the extreme southern part of Italy. These Byzantine territories were a holdover from the Italian conquests made under the East Roman Emperor Justinian in the middle of the sixth century. In the center of the Italian peninsula and to a certain extent threatening to cut the Lombard power in two, was the territory which was under the nominal control of a shadowy official called the Duke of Rome but which was for all practical purposes under the control of the Bishop of Rome, an individual anxious to increase his power and the prestige of his see.

In discussing class distinctions in eighth century Italy, we shall here be concerned primarily with the dominant people of this period, the Lombards, although in discussing the various classes of society among this people it will be necessary to note from time to time the relative position of other non-Lombard persons in the peninsula.

The Lombards were a tribe of Germanic barbarians who

* A public lecture delivered at the Rice Institute on October 28, 1951.

had entered the Italian peninsula in the year 568.[1] Perhaps originally they had lived in the northern part of Europe just south of the North Sea in the region around the mouth of the Elbe River, but for about a century before entering Italy, they had lived in what was once the old Roman province of Noricum, which is now part of modern Austria. This territory had once been a part of the Roman Empire, but by the time the Lombards appeared there Roman control had long since disappeared, and apparently no vestiges of Roman political organization remained. Instead the district was contested by a number of the barbarian peoples, the Lombards having to assert their warlike nature before making good their claim to the territory. We have no contemporary records which mention the Lombards during the existence of this pre-Italian Lombard "state." Their own tradition, as later recorded by their native historian, Paul the Deacon, held that during this period the Lombards were ruled over by kings. If this tradition is correct, it seems likely that there must have been some political organization of at least a rudimentary sort among the Lombards during this period.

Evidently it was while they lived in Noricum that the Lombards first came into contact with some ideas which were essentially Roman. Their possible sources of contact with such Roman ideas were three. In the first place, there was some slight possibility that traces of Roman organization or culture survived from the period of Roman control into the period when the Lombards arrived in Noricum. In the second place, the Byzantine Empire had valuable trade contacts with the various barbarian peoples living in the eastern and central part of Europe. Ideas often pass easily along the trade routes, and in this way the Lombard kings could readily have heard of the Eastern Roman Emperor and have come to understand a little about his position in

the eastern Mediterranean. Furthermore, with Byzantine trade was bound also to come Byzantine notions regarding contractual arrangements and sales, and in this way the Lombards previous to their arrival in Italy might well have been considerably influenced by some of the concepts of Roman Law, especially those dealing with contractual proceedings. In addition, there was a third possible source of Roman influence. While living in Noricum the Lombards were converted to the Arian form of Christianity. The Church with its ecclesiastical organization, though rudimentary, was bound to bring a number of Roman influences.

In spite of these possible sources of Roman influence, the Lombards were still a relatively backward and barbarian people when they invaded Italy in 568, tempted there by the political anarchy which existed after the overthrow of the Ostrogothic kingdom by the temporarily revived Byzantine Empire under Justinian. Perhaps the relative backwardness of the Lombards can be best understood by noting that although they had been converted to Christianity and had been carrying on trade relations with the Byzantine Empire for some hundred years or more, they still had no written language of their own. In addition they retained their native Gothic tongue.[2]

When the Lombards entered the Italian peninsula they found the land rather sparsely populated, for Italy had been torn by civil and external wars for almost fifty years prior to their arrival. The native Italian population which remained was made up of two elements, although one of these was practically non-existent. The most important of the two elements was a population descended from the old Roman population of Italy; the other was the remnant of the Ostrogothic nation. The descendants of the old Roman population are referred to in a general sense as Romans, although

beginning with our approximate period one must be careful to understand his terminology, for the term Roman comes more and more to refer specifically to an inhabitant of the city of Rome or of the immediately surrounding territory, and not to any descendant of the former Roman citizens.[3] This confusion in terminology will appear in the laws of the Lombards when the Lombards get around to recording them, and one must be careful not to include the former Roman population among those affected by the harsh measures which were enacted against the inhabitants of the city of Rome, one of the primary foes of the Lombard kingdom. The less important element in the population which the Lombards encountered in Italy was made up of the remnants of the Ostrogothic nation. The Ostrogoths had lived in Italy as a ruling population under their extremely able king, Theodoric, from about 490 until the death of Theodoric in 526. During that time Italy seems to have been relatively peaceful, and the Ostrogothic king did his best to smooth out the radical differences between his own barbarian followers and the more highly cultured Romans among whom they lived. Although things progressed fairly well while Theodoric lived, his death was the signal for all the latent hostility between Ostrogoth and Roman to break out. Furthermore, the Ostrogoths could not decide among themselves upon a peaceful succession to the Ostrogothic throne. While Italy was in this state, the Eastern Roman Empire under Justinian enjoyed a revival, and for almost twenty years the Byzantines fished in the troubled waters of Italy. During this period it was the Ostrogoths who bore the brunt of the Byzantine attack. The former Roman population seems to have stood aside and let the Byzantines and Ostrogoths fight it out between themselves. The Byzantines were prevented from immediately conquering the peninsula by their own

blundering, but they ultimately defeated the Ostrogoths, who were torn by internal dissension and who did not have the resources of the Byzantine Empire. The Ostrogoths were not only defeated as the result of their long struggle with the Byzantines, but they were also practically exterminated in the process. At any rate, if the Lombards encountered any Ostrogoths in the Italian peninsula, their number was negligible, and no mention of this people appears in either the Lombard Laws or in the history of the Lombards which was written by Paul the Deacon late in the eighth century.[4]

Thus the Lombards, a Germanic barbarian nation, entered Italy in the sixth century, attracted there by the warm climate of the peninsula, by the relative fertility of the region, and by the political chaos of the territory. They entered Italy not for plunder or temporary conquest, but to establish themselves there permanently. One of the major social and economic problems facing the Lombard king, therefore, was the problem of dividing the conquered land among his followers. The Lombards themselves were a people relatively few in numbers, so it would not have been to their advantage to dispossess the former population completely. We do not know exactly how this division of land took place, but there are certain vague references to "thirds" in the native Lombard historian Paul the Deacon[5] and in the Lombard Laws, which make it fairly certain that the Lombards followed a system of "hospitality" whereby the land together with the agricultural workers who dwelt on that land was divided up into thirds.[6] In the fifth century, an arrangement had been followed by the Burgundians whereby the Burgundians took two-thirds of the land and one-third of the agricultural workers, thus leaving to the former Roman host one-third of the land and two-thirds of the agricultural workers.[7] When the Visigoths divided the territory of southern Gaul

and Spain, in the middle of the fifth century, they seem to have taken two-thirds of both the land and the agricultural workers.[8] We have no way of determining just how many thirds of land and of agricultural workers were taken by the Lombard conqueror and how many were left to the former Roman lord. It is certain, however, that in spite of the Lombards' reputation for cruelty and the charges made by many early modern scholars that the Lombards wiped out entirely the former free Roman population,[9] Lombards and Romans did continue to live side by side in more or less analogous economic conditions. Politically, yes, the Romans were always subordinate to the Lombards, but economically and socially there seems little reason to believe that the Romans were especially downtrodden.

This much we have, then: the Germanic Lombards have entered the Italian peninsula; they have conquered the northern part of the territory with very little trouble; they have by-passed the Duchy of Rome; and they have conquered the part of southern Italy which was to form part of those two famous Lombard duchies, Spoleto and Benevento. Our best source of information about the Lombards is a series of law codes compiled by various of their kings and promulgated for the benefit of their people. These laws but rarely deal directly with the subject of class distinctions among this barbarian people, but much is inferred there in the laws, and by a careful comparison of the provisions of many of the laws, one is able to discern some fairly certain facts.[10]

The Lombard nation as a whole constituted a ruling element in the Italian peninsula after their arrival there. Such a statement would suggest that the Lombards were a sort of ruling aristocracy. But the Lombards themselves were divided up into a number of social classes, some of which

were decidedly not aristocratic. In describing these social classes, we must bear in mind certain facts about the barbarians in general, and about the Lombards in particular. The first of these facts was the high esteem in which the occupation of warfare was held by this people and by the barbarians in general. The mark distinguishing the ordinary Lombard freeman from persons of servile or semi-servile birth was his army service. Every Lombard freeman is described as an *exercitalis,* the Latin word for soldier, or as an *arimannus,* the Lombard form of the Gothic *Heermann,* or army man.

But not every man who entered the Italian peninsula with the Lombards was such a freeman or *exercitalis.* The Lombards, like the other barbarians, had long taken advantage of the institution of slavery or something resembling semi-servile tenure in order to keep their fields cultivated and their crops harvested. These agricultural servants were usually war captives, and the obtaining of such workers did much to demonstrate the economic necessity of warfare to the barbarian peoples. The Lombard Laws will have much to say about these servile classes, and they will also have much to say about the several ranks which will appear among the freemen themselves. Since the laws are our best source of information about these class distinctions, it is to the laws themselves and their provisions regarding this problem that we shall next turn.

From the Lombard Laws it is clear that Lombard society fell into a number of classes, but it is hard to define each of these classes precisely. The laws suggest—and such an explanation is reasonable when one considers the political instability of the Lombard kingdom—that the constitution of the Lombard social structure was in a state of flux in the period between the issuance of the first laws by King Rothair

in 643 and those issued by King Liutprand and his immediate successors in the first half of the eighth century.[11] This state of flux is especially true with regard to the free classes.

One may with certainty say that Lombard society was divided into three main groups: the freemen, the *aldii* or semi-free men, and the slaves. But in addition to these three general divisions, it would seem that there were various subdivisions within each class, especially among the class of freemen and among the class of slaves. We shall consider each of these classes in the order just mentioned. We shall then consider the rather difficult question of personal lordship, which is beginning to modify these classes, especially that of the freemen, for this peculiarly medieval institution tended to supersede the older lines of class distinction.

The freemen. Any adult Lombard capable of bearing arms was considered a freeman and as such was able to participate actively in Lombard society: he answered the call to arms, he possessed a "wergeld," and he was fully competent at law. As already suggested, the close connection between the idea of army service and full citizenship is clear from the terms used frequently to denote a freeman, the Latin term *exercitalis* and the Lombard word *arimannus* both being used to denote an ordinary freeman liable for military service.[12]

Every free Lombard had a "wergeld" which represented his value or money worth. The payment of such a wergeld was required by his family if he were killed, or in certain other cases of serious physical injury or personal affront. The reasoning behind the payment of such a sum of money among the Lombards and among the barbarians in general was that it should placate the aggrieved family in order that a blood feud (*faida* in the Lombard Laws) might not arise.[13]

The amount of the wergeld was established in accordance with the social and legal rank of the man concerned (*in angargathungi* was the Lombard expression for this idea of wergelds varying according to status).[14] From the analogy of the other *leges barbarorum* where schedules of wergelds appear, it would be expected that the *Leges Langobardorum* would set up a definite range of wergelds as soon as the customary law was reduced to writing with any degree of completeness. The earliest issue of Lombard Laws, that of Rothair in 643, contained 388 titles, over twice as many laws as were issued by any other Lombard king. Considering the length and inclusive nature of Rothair's Edict, one would expect to find there a statement of these various wergelds of freemen. This is all the more to be expected when one considers that the Edict includes a very detailed schedule of tariffs[15] to be applied in various kinds of physical injury short of death. But the schedule of wergelds proper is nowhere stated in Rothair.

We can still, however, get some idea of the varying values placed upon social rank in the seventh century in the time of King Rothair, less than a hundred years after the arrival of the Lombards in Italy, by a glance at the schedule of tariffs for injuries. The compensations provided are those for injuries that fall into three main categories: those inflicted upon *servi rustici* or agrarian slaves, those upon *servi ministeriales* or household slaves and *aldii*, and those inflicted upon freemen. Here in the case of the less serious physical injuries, the composition stated is the same for all freemen, regardless of any difference in social rank. But in the case of permanent injury—such as, for example, the loss of an arm, a leg, or a foot—a set composition is not mentioned, but instead it is stated that the composition is to be assessed at

some fraction of the man's wergeld, the exact fraction depending upon the severity of the injury. For example, the loss of a leg might require the payment of one-half a man's wergeld, the loss of an arm, one-third his wergeld, and so on.[16] A man with a higher wergeld would thus automatically receive more for such an injury than would one with a lesser wergeld. Such provisions along with the absence of a definite statement of the freeman's wergeld in Rothair's Edict, would lead one to the conclusion that the wergeld of every freeman was not the same—instead it varied as a man was valued (*adpretiatus fuerit*). Such expressions as this last suggest the conclusion that the wergeld of the freeman was not fixed at this time in the seventh century but was decided upon each occasion in accordance with the "quality" of the person concerned.[17]

By the eighth century, the question of fixed wergelds for freemen received the royal lawgiver's attention. Here the basic law is Title 62 of the laws issued by Liutprand. This law leaves no doubt that there were different classes of freemen who had varying wergelds:

> Anyone who has [deliberately] killed a freeman, shall lose his entire property; and he who has killed a man while defending himself shall make composition according to the quality of the person. Now moreover we take foresight to establish by what means that quality should be considered. For it is the custom (*consuitudo*) that a lesser person (*minima persona*) who is [yet] found to be a freeman (*exercitalis*) shall be compounded by one hundred fifty solidi, and he who is of the first class (*primus*) shall be compounded by three hundred solidi. Indeed concerning our *gasindii*, we wish that anyone who has killed the least of these (*minimissimus*) in such a manner, shall make a composition of two hundred solidi on account of the fact that he is seen to serve us; indeed it shall be greater according to the quality of the person as in our consideration or in that of our successors it ought to remain permanent in what manner that composition ought to ascend to three hundred solidi.

Here we have a very definite statement that there were several kinds of freemen among the Lombards, whose status was reflected in their varying wergelds. The difficulty remains to determine just what is meant by this distinction between the *minima persona* and the *primus homo* mentioned in the law. Our only clue to this difference comes from Liutprand 83 which establishes how many retainers the various royal officials might take into battle with them. In addition to a specified number of horsemen, each official is allowed a number of lesser men (*minores homines*) "of those who have neither houses nor land." Such would make it seem that the lowest class of freemen provided with a wergeld of one hundred fifty solidi, according to the terms of Liutprand 62, was a class of men who did not hold landed property of their own, but occupied the lands of others in the position of a tenant or dependent retainer. On the other hand, the "first class" (*primus*) must then refer to the landed classes. Moreover the fact that the lowest class of freemen—a class which does not possess land—is still referred to as an *exercitalis* would lead one to the conclusion that this landless freeman, even though we have no specific name for him among the Lombards, may be equated with the Anglo-Saxon *ceorl*, and like the Anglo-Saxon *ceorl*, was liable for military service.

Generally speaking, all adult free males in the Lombard kingdom were legally competent. In a few cases involving undivided property some sort of over-all power seems to have resided in the hands of the father of the house even though that man may have had sons and grandsons who were grown. Even in such cases, however, the property of the heirs is protected against alienation by this "house father."[18] We may say, therefore, that the Lombard house father did not enjoy the right of legal protection and representation over all of his living descendants as did the Roman house father.

It is true that the Lombard did enjoy such rights over the women of his house, over his minor sons, and over his slaves and *aldii*. His own sons, however, became legally competent at the age of eighteen and thereafter were able to handle their own property.[19] All free males within the Lombard kingdom above the age of eighteen, with the exception of a few incompetents, were able to handle their own property, and to sue and be sued before the judges of the land. They were further responsible for the giving and receiving of compositions in criminal and civil cases as well as able to offer oath for themselves or friends or to become sureties for the payment of some debt.

Free women were not legally competent under the Lombards. Instead a woman always had to be under the legal protection of some male.[20] In this respect the woman's position closely resembles that of women under the older Roman Law where the authority of the house father over his wife, children, etc., was complete. The Lombard right of protection over women was both a legal and a property right, the word used to express it in the laws being *mundium*.[21] Ordinarily this *mundium* was in the power of the father until the marriage of the girl, at which time it might pass to her husband, but only if the prospective husband fulfilled the terms of the marriage contract, that is, only upon the full payment of the *meta* which had been set up in the agreement with the girl's father.[22] Before this payment was made or if it was agreed that it would not be paid, the *mundium* of the wife did not pass to the husband but remained with the father or whoever possessed it.[23] If the father of the girl were dead, then her *mundium* passed to her brother, or in the absence of a brother, to some other guardian in accordance with the rules of inheritance, or lacking any suitable relatives, to the court of the king. If the

possessor of the *mundium* were someone other than the father or brother (or later the husband), he is described as the *mundoald,* and the girl is his ward or *frea.*[24]

As a result of her lack of legal competence, a woman was not allowed to take part in judicial suits or to sell property without the consent of her husband and without the witness of her relatives or of the judge of the place.[25] Similarly, in the case of judicial suits it was ordinarily the relatives of the woman who were responsible for handling her suit.[26] Furthermore, a woman did not pay composition, but instead compositions for injuries caused by her were paid by the person to whom her *mundium* belonged, and compositions due her for injuries were ordinarily collected by her *mundoald.*[27] A woman also did not have a wergeld, in a strict sense, since she was incapable of raising the *faida;*[28] however, in practice it was the same as for a male member of her social class.[29]

The aldii or persons of the semi-free class. The *aldius* occupied a position somewhere between that of the freeman and that of the slave[30] and hence comparable to the *laet* of Kentish law and the *lidus* of Frankish law. The wergeld of the *aldius*—if it may be said that the *aldius* possessed a wergeld—was sixty solidi (Rothair 129) while the *pretium* or value of slaves varied from sixteen to fifty solidi depending upon the skill and training, the usual *pretium* of the slave being about twenty solidi.[31] As we have noted above, the wergeld of freemen varied from one hundred fifty to three hundred solidi.[32] This difference in "value" would indicate that the *aldius* occupied a position somewhat above that of even the most valued slave, and still considerably below that of the lowest class of freemen. A further indication of this in-between position of the *aldii* is indicated by the fact that injuries to them were compounded for at a rate which

was usually a third or fourth of the composition set for a corresponding injury to a freeman, while the composition set for injuries to *servi rusticani* or agrarian slaves (the lowest class of slaves) was usually half of the composition set for the corresponding injury to *aldii.*[33]

The *aldii* in the Lombard Kingdom occupied a social and economic status which is but ill-defined. As far as their legal competence is concerned, they seem to be halfway between the slave on the one hand and the freeman on the other. In some of their characteristics (in, for instance, the fact that they might marry free women[34]), they seem closer to the free in status than to the slave, but in other respects, for instance their inability to enter into contracts,[35] their position seems to have been closer to that of the slave.

In a legal sense, the position of the *aldius* in relation to his lord was sometimes equated with that of the slave, and at other times, it seems to have been more like that of a client to his *patronus;* that is, it was something like a guardian-ward relationship. And again, in some cases, the position of the *aldius* seems the same as that of the freedman, and there are specific laws for the raising of a slave to the position of an *aldius.*[36] So it may further be that the *aldius* is a slave who has been partially emancipated—he remains personally free but under the tutelage of his former lord and in direct servitude to him still.

The *aldius* was not legally competent, that is, he could not enter into transactions in his own name, and he might not give and receive compositions in the case of offenses involving the payment of composition, although, as in some instances in the case of women, the *aldius* might be allowed to receive the composition. Here the type of offense involving such a payment is usually that reflecting upon one's per-

sonal honor, as in the case where someone violently commits adultery with the wife of an *aldius.*

The patron of the *aldius,* although occasionally referred to as *patronus,* is usually called *dominus* or lord. This lord was legally responsible for his *aldii,*[37] and, as a matter of fact, a man's *aldii* were classed among his dependents and were legally not distinguishable from the women of his household or his minor heirs. The lord represented the *aldius* in legal suits; to him was paid composition for injury to the *aldius;* and compositions incurred by the *aldius* were paid by him.[38]

Since the position of the *aldii* is taken for granted in the Laws, it is difficult to infer more about their social position than that which has just been said. The Laws make no mention of their depressed condition, that they owed agrarian services, or that they were bound to the land, although such conclusions are almost inevitable when it is considered that a manorial system was established in the Italy of the Lombards, and only the *aldii* fulfill the conditions of necessary dependent agricultural workers. That this class contained all the former Roman population of the peninsula—as argued by a number of important nineteenth century scholars—seems insupportable from the evidence of the Laws.[39]

The slaves. The Lombard slaves were equivalent to the Roman *servi.* There seem, however, to have been several classes of slaves among this people. The most well-defined classes are those described as *servi ministeriales* and those described as *servi rustici.* The *servi ministeriales* or household slaves are defined in the Laws as those "who have been taught, nourished, and trained (*probati*) in the home." The composition for injuries inflicted on them is the same as that for injuries to *aldii,* but their *pretium* or value is not the same. The wergeld of the *aldius* is sixty solidi, while the

pretium of the household slave is fifty solidi in the case of one who has been fully trained and twenty-five solidi in the case of one who is subordinate to such a fully trained slave.[40] As far as compositions for the *servi rustici* are concerned, all types of agrarian slaves are provided for in the same schedule of tariffs; that is, the same composition applies to all of them whether they are *massarii,* the highest type of agrarian slave who dwells in his own hut, or the lowest type of herder. The compositions for injuries to this class are the lowest ones provided in the Lombard Laws.[41] The *pretia* or legal value of these slaves differ in the following manner: the *servus massarius* or the slave who occupied some sort of servile holding with a house on it, was valued at twenty solidi.[42] The *bovulcus* or ox plowman was also valued at twenty solidi.[43] The *servus rusticus* who was subordinate to the *massarius* was valued at sixteen solidi.[44] The "master" swineherd who had two or three or more "apprentices" was valued at fifty solidi; a less important swineherd at twenty-five solidi.[45] The "master" cattleherd, goatherd, or oxherd was valued at twenty solidi, one of his "apprentices" at sixteen solidi.[46] It is only in the descriptive names of these slaves that we have any indication of the type of work they were called upon to do. But it is clear that slaves generally belonged to certain classifications and their duties were determined accordingly. In other words, there is considerable differentiation of labor among the slave population of the Lombards.

Although slaves were prohibited from taking free women to wife, a man might marry his own maidservant but only on the condition that he free her first, that is, that he make her *vurdibora* by the procedure of *gairethinx.*[47] If a freeman had children by the maidservant of another, then the father might purchase these children from the lord of their mother

and manumit them by the formal procedure of *gairethinx,* whereupon the children would enjoy the position of freemen. However, if the father did not purchase such children, they remained the slaves of their mother's lord.[48]

As would be expected, slaves were not legally competent among the Lombards. Legally, the lord was responsible for his slave.[49] This meant that the lord not only had to pay composition for the illegal acts committed by his slave, but he also received composition for the injuries done to him.[50] Furthermore, slaves were not allowed to enter into commercial negotiations concerning the property of their lord—since legally they could have no property of their own—without the express consent of their lord.[51]

The subject of slavery brings us to the related question of emancipation or manumission as it was known in the Roman and barbarian laws. The subject of manumission in the Lombard Laws reveals a most curious mixture of Roman and Germanic elements. Since this question of emancipation reveals the general attitude of the ruling class toward their slave population, we will note the essential features of this process here.

In Rothair's Edict it is stated that there are four kinds of manumission or emancipation, and these four kinds of manumission are defined.[52] Later laws on this subject do not change this basic provision—they are simply modifications and clarification of it.[53] We will first note what the four kinds of manumission were, and then explain each of them.

Manumission for the slave of his Lombard master did not always bring with it complete freedom. It is true that the Lombard lord could give complete freedom to his slave if he so desired. According to the Edict, the slave would then become *fulcfree, amund* (*haamund*), and *extraneus.* This meant that he was "folk-free" and *a-mundius,* that is, that he

was not under the *mundium* or protection of any person. Finally, that he was *extraneus* meant that he was no longer a member of the family of his former lord—he had become *extraneus,* a stranger, to the family.[54]

The master or lord, however, might not choose to give his slave such complete freedom. He might make him *inpans,* which seems to have meant that he became *fulcfree* without becoming *amundius,* for he remained in the *mundium,* the legal protection, of his former master. In such a case, the former slave presumably did not become *extraneus,* a stranger to his lord, although the law does not make this statement explicitly.[55]

A third type of manumission is that which made the slave *fulcfree* and *amundius,* but which did not make him *extraneus,* in other words, the former slave, now completely free, still remained a member of his former lord's family.[56]

Under still another type of manumission, the lord might raise his slave to the status of an *aldius.*[57] In such a case, he presumably is made neither *fulcfree, amundius,* nor *extraneus.* Unfortunately there is little said about this type of manumission which might throw some light upon the actual status of the presumably abundant class of *aldii.*

In connection with the first type of manumission mentioned here, it seems to have been necessary that the master wishing to free his slave in this complete manner should first make a formal transfer of the slave to another man, a procedure known as "by *gairethinx.*" This is usually explained as a gift confirmed by an assembly (*thing*) attended by those bearing spears (*gaire*) who flourish them to show their approval of a specific act. Whether such a spear-assembly survived in the Lombard period is not at all clear from the Laws, but the expression, "to confirm by *gairethinx,*" remained. We are at least safe in saying that it was

some kind of a witnessed gift or alienation.[58] The second party to whom the slave had been transferred would then take the slave in question and by the same formal method of transfer, give him into the hand of a third party, and the thirty party in the same manner would hand him over to a fourth party. This fourth man would take the slave to a place where four roads meet and give him his freedom with *"gaida et gisil,"* with oathtaker and witness, and make some kind of a formal statement to the effect that the slave now had the right to choose which of the four roads he might wish. A slave given this type of freedom became *fulcfree* or folk-free,[59] estranged from his former master (*extraneus*) and *a-mundius,* that is, no longer under his former lord's protection or *mundium.* Such a complete freedom allowed the former slave to go where he wished and cut all connections with the family of his former lord. Consequently, upon the former slave's death without heirs, it was the court of the king and not his patron or the heirs of his patron, who succeeded to his property.[60]

In the second type of manumission, the slave became *fulcfree* without becoming *amundius,* that is, although personally free, he still remained under the *mundium* of his former lord, and in such a case, his relationship with his lord was much the same as that of ward to guardian for he remained under the legal representation of his lord. For this type of manumission, which is described as becoming *inpans,* the slave did however become completely free as far as his own personal life was concerned, at least as free as, say, a free woman would be. Instead of being passed through the four hands and being given the choice of the four roads, this type of manumission seems to have been accomplished by handing the slave over to the hand of the king.[61]

By the third type of manumission, the slave went through

the formal type of emancipation described in the first case and was consequently made *fulcfree* and *amundius,* but by some means or another, he did not become *extraneus.* His legal position toward his former lord is described as that of a related free Lombard: that is, if he does not leave legitimate sons or daughters who are *fulcfree,* then the patron may succeed him just as if they had been near relatives. Other than this stipulation, however, the third type of manumission did not differ from the first.[62]

By the last type of manumission, which is not described, the lord can raise his slave to the position of an *aldius,* and this partially emancipated slave then enjoyed the same legal position as the other *aldii.*[63]

The types of manumission which have been discussed above were the result of a voluntary manumission by the lord. It was possible, however, that manumission take place without the consent of the lord. Liutprand 140 provides for the case where the lord commits adultery with the wife of his slave or *aldius.* Here he is to lose the slave or *aldius* and his wife also, and they are to become *fulcfree* as if their manumission had been given to them by the formal ceremony of the *gairethinx.* In order that such a ceremony can actually take place and so that the manumission will become legal, the man and woman are to present themselves before the prince of the land and he will give them their freedom and set down the terms of their freedom in a charter. Slaves or *aldii* manumitted in such a fashion could thereby become completely free even without the consent of their former lord.

II

So much for the specific classes into which society in the Lombard kingdom was divided. Let us now turn to the

fascinating question of personal lordship with all that this expression implies regarding the relationship between a lord and his vassal.

In the study of all medieval kingdoms, one is inevitably brought up against this elusive problem associated with the origins of feudalism. The layman often automatically associates feudalism with the Middle Ages, and yet most of us would be totally unable to account for the way in which this institution or body of institutions developed out of the amalgamation of Roman and Germanic elements. It is clear that although Roman organization had begun to break down by the fifth century, strictly feudal conditions had not yet appeared. It is equally clear that by the ninth century feudalism had penetrated into almost all parts of western Europe, with the possible exception of England. Some time in between the fifth and the ninth centuries one should be able to find the origins of feudalism, and these origins will be in the barbarian kingdoms which arose as the Roman Empire in the West gradually fell apart. The Lombard Kingdom is one of those barbarian kingdoms which were in existence as feudal conditions gradually evolved, so we would expect to find some institutions here which are either feudal or pre-feudal. Before we consider this problem, we might note just what definition of feudalism is accepted here.

Feudalism is usually defined as a peculiar combination of fief holding and vassalage. Fief holding is the holding of a piece of land or office in return for certain agreed services rendered by the vassal or fief holder to the lord. Vassalage is an honorable relationship between the lord on the one hand and his "man" or vassal on the other, the arrangement being cemented by an oath of loyalty and both parties being social equals.

A discussion of the problem of the origins of feudalism in Italy is much too difficult to be treated in detail here, but it would be interesting to note just how this question of lord-vassal relationship has already become recognized in the Lombard Laws which were published in the seventh and eighth centuries.

Even in Rothair's Edict where there is no specific mention of differences in the wergelds of freemen, the fact that not all freemen enjoyed the same status may be inferred from several of the laws. One of these, Title 13, states simply that if anyone kills his lord, he is to be killed. Such a statement could refer to one of free or of unfree status, but the provisions for enforcing this sentence would indicate that it is aimed at a freeman: "If anyone has tried to defend this murderer who has killed his lord, let him be liable to pay nine hundred solidi, half to the king and half to the relatives of the dead man. And those who refused aid in avenging the injury of the dead man, if indeed their aid was sought, let each of them compound fifty solidi, half to the king and half to him to whom they denied aid." Defense of a slave, even though a murderer, would hardly bring a composition of nine hundred solidi, which is that imposed for an unjustified breach of the public order.[64] Furthermore, if the murderer were a slave, it would hardly be necessary to enlist the aid of freemen in avenging the injury to the dead man. From this law it would follow then that the lord-freeman relationship existed as early as the time of Rothair in the middle of the seventh century, but the Code does not elucidate the matter further. Perhaps this relationship may even date back to the *comitatus* of the Germanic prehistoric period.

That royal officials enjoyed a rather special position in their relationship to the king and to other freemen is indi-

cated by two other laws from Rothair's Edict. According to Title 374, if anyone kills the *sculdahis*[65] or agent of the king while that individual is employed on the king's business, composition is to be made to his relatives as in the case of any other freeman, but in addition, a composition of eighty solidi is to be paid to the king. The offense mentioned here, of course, is manslaughter rather than murder since only the wergeld composition has been imposed and no extra compensation is made to the state for the breach of the peace, but even in such a case of presumably justifiable homicide, the fact that it is against one of the king's officials made the perpetrator liable to a considerably higher penalty than in such a case involving an ordinary freeman.

The laws of Rothair leave us very uncertain as to the exact nature of the relationship between the king on the one hand, and the judges of the nation and his royal officials on the other. In the later laws issued by Liutprand, Ratchis, and Aistulf, however, the matter becomes more definite, and we have terms introduced which seemingly must refer to special kinds of freemen in their relationship to other individuals or to the king. These men are those termed *fideles* or *gasindii* in the laws. We are able to learn a little about these persons from the prologues to the laws of Liutprand. The laws of Liutprand were not issued all together in one year but were promulgated in fifteen different issues in the years between 713 and 735. Each of these issues is preceded by a prologue of varying length which indicates that the king is issuing these laws with the advice of his councillors. The initial prologue is the longest, and for our purpose we may take it as typical of the rest. Here Liutprand notes that he is issuing these laws "together with all the judges from the divisions of Austria as well as of Neustria, and even from the boundaries of Tuscany, as well as with my re-

maining Lombard *fideles*, and with the rest of the people attending." He issues the laws with, as he says, his "common council (*commune consilio*)." We may be reasonably sure that the judges mentioned here are the highest royal officials, but that leaves the problem of who the *fideles* were. That they constituted what was essentially a Lombard nobility, or rather, a class of royal vassals, may be deduced from a comparison of this statement with that made in the prologue to the issue from the eighth year of Liutprand's reign. Here Liutprand states that he is issuing his laws "together with my most illustrious nobles (*obtimatibus*) from the bounds of Neustria, Austria, and of Tuscany, and with the rest of the Lombard nobles (*nobilibus*) . . . with all the people assisting." It would appear here that the term "nobles" (*obtimates, nobiles*) is used interchangeably with *iudices* and *fideles*. If our deduction is correct, then, the *iudices* and the *fideles* constitute the noble class of the realm. Presumably they are bound by an oath of loyalty to the king if we may trust the connotation of the term *fidelis*.

Our discussion up to this point leaves the question of the other royal officials and the *gasindii*. Are they also a part of this "nobility"? The word *gasindius* first appears in Title 62 of Liutprand's Laws. This is the law already discussed which establishes at one hundred fifty solidi the wergeld of a freeman (*exercitalis*) described as a *minima persona*, and the wergeld of a *primus* at two hundred. The law concludes: "Indeed concerning our *gasindii*, we wish that anyone who has killed the least of these (*minimissimus*) in such a manner, shall pay two hundred solidi in composition on account of the fact that he is seen to serve us; indeed [this amount] shall be greater according to the quality of the person as in our consideration or in that of our successors it

has been established in what manner that composition ought to ascend to three hundred solidi." Just who the *gasindii* were is never mentioned in the Laws but it does not seem too much to presume that, at least as far as the king was concerned, his *gasindii* were also *fideles,* that is, they had entered into some special kind of relationship with the king, probably based on an oath of loyalty: the same relationship as that which had existed for so long between the Germanic leader and his body of personal followers, the *comitatus.*

By the time of Liutprand, and perhaps even considerably earlier, the king is not the only one to have such personal followers or *gasindii.* At any rate, the special relationship between lord and man was evidently complicating the administration of justice in the Lombard Kingdom since there are no provisions in the code for various types of freemen—all are provided for in the same terms. In other words, there is no distinction between the lord and his vassal as far as the Laws are concerned. In the case of the followers (*gasindii*) of the more powerful lords, it had evidently come to the attention of the king that these men were appealing to their lords for justice rather than to the king's representative, the *iudex.* It would appear that here there is a tendency for private courts to replace the royal courts. Such at least would seem a reasonable interpretation of Ratchis 10 and 11, although admittedly these laws are very obscure. Ratchis 10 seems to say that there are men in the realm who refuse the jurisdiction of their *iudex* and instead rely on the *patrocinium* or legal protection of another, and that furthermore, they seek to encourage other men to do the same thing. Part of the reason for this state of affairs was, as the law says, due to the fact that not all judges were devoting enough time to their judicial duties because they were more concerned with their own affairs, and with the affairs of their

relatives and of their own *gasindii*. Here there seems to be a double indication of the lord-man relationship. In the first place, the *arimannus* as he is called here, does not feel that he is getting adequate protection from the judge and so confides in the *patrocinium* of another, which must mean that he is accepting the lordship of some more powerful man. Then in the second place, it would seem that the judge has his own personal followers or *gasindii* for whom he has become responsible.

Such is all that can be gleaned from the laws directly on the subject of lordship. A consideration of the question of land tenure, however, may throw a little more light upon the problem. When the Lombards entered Italy, it was admittedly to get land, for they had allowed the lands which they had formerly occupied to pass to the Avars. What system of land distribution in Italy was originally followed by the Lombards is not indicated in the *Leges*, but there are a few references to the present distribution of land which seem to support the following conclusions. In addition to those lands which were held in private ownership, there were still some lands which belonged to the crown. These lands were administered by the king's officials, the *gastaldii* and the *actores*. These officials were responsible for such lands and made grants of them to individuals at the command of the king. This power must have been abused, however, for there is a very minute law (Liutprand 59) which forbids such officials to make grants on their own authority—a pretty sure indication that they were doing it.

Arguing from the analogy of the other Germanic kingdoms, it does not seem too much to say that when the Lombards first entered Italy, they probably distributed the land as they conquered it to the freemen who participated in the conquest, although the exact nature of this distribu-

tion is a very much controverted point. This distribution of land included a distribution of the people who had been working the land under their former masters. In other words, the Lombard conquest probably had little effect upon the manorial population of the land aside from the fact that for their former Ostrogothic or Roman lord, a Lombard was now substituted. This manorial population, which probably constituted the bulk of the *servi* and *aldii* of the Lombard kingdom, must have held land from their Lombard lord on the basis of some kind of servile tenure. Such at least would seem to follow from the vague references made in the laws concerning physical injuries to various types of unfree men. But this problem of the agrarian population and their kind of land tenure does not concern us here. The question here is whether or not freemen also held land of other men—that is, whether a freeman had a lord as the result of holding land from him.

That some freemen did hold land of other freemen on terms which did not necessitate the vassal's oath of loyalty to his lord seems clear from Liutprand 92. Here provisions are made concerning persons who hold land by "book" or by charter. If a man is a vassal and holds land from his lord in return for an oath of loyalty, the nature of the relationship between the two men is strictly honorable and they are social equals. Such is not necessarily true in the case of holding land by book or charter. Ordinarily only small amounts of land would be granted by book, and they would be granted to the man who was actually going to work the land. Hence the man who holds by book, although a freeman, is quite likely much lower in the social and economic scale than his lord, and they are not necessarily social equals.[66]

In summary we might say that the manorial system in-

herited from the late Empire was still in effect among the Lombards and furnished the chief means for the actual working of the land. However, the existence of servile tenures among the Lombards did not preclude the possibility that freemen also might be directly associated with the land and might hold land from their lords in return for a fixed rent. Our conclusion is that both free and unfree persons might hold land by what we may call manorial tenure.

On the other side of the economic picture were the large landlords who held their land by virtue of their participation in the original Lombard conquest of the region or as the result of a subsequent gift made to them either by the king or by one of the king's officials. It is difficult to find a suitable word to describe this kind of tenure. It is not feudal tenure, for these lands or estates are not held in return for any stipulated service, although the holder might incidentally render some kind of service to the king, such as being one of the king's officials. In other words, the estates held by the noble class among the Lombards were held as benefices rather than as fiefs. Hence the *gasindius* or *fidelis* of the king (or of some other noble) might hold an extensive estate consisting of a number of manors and containing a large number of both free and unfree agricultural workers, and yet not hold by a strictly feudal tenure. That was to come later when the Franks had taken over and gradually substituted a nobility which was willing to take an oath of loyalty to their Frankish lord on terms which were more strictly feudal.

Feudalism, strictly defined, probably did not exist in the Lombard kingdom. However, a situation did exist there which had many features in common with feudalism. Perhaps the institutional position of Italy before the Frankish conquest might be compared with the position of England

before the Norman conquest. The Lombards knew the institutions of vassalage and dependent land tenure before the Franks introduced feudalism proper in much the same way that the Anglo-Saxons knew a lord-thegn relationship before the Normans introduced more strictly feudal institutions. The question is primarily one of definition, but it must probably be admitted that the combination of vassalage with fief holding in return for honorary (usually military) service, was a contribution of the Franks to history, and from their kingdom in Gaul, this true feudalism spread to Italy and to most other parts of western Europe.[67]

KATHERINE FISCHER DREW

NOTES

1. Historical references to the Lombards before they entered Italy are few. We hear of them in the first and second centuries after Christ in the writings of Velleius Paterculus and Strabo, and in those of Tacitus and Ptolemy. These Latin and Greek writers do not agree on the exact location of the Lombard nation during these centuries but generally they indicate the region of the Bardengau on the left bank of the lower Elbe. After these brief contacts with the Roman Empire in the first and second centuries, the Lombards disappear from history for three hundred years. At the close of the fifth century, the Byzantine historian, Procopius, locates them in Ponnonia and Noricum. From this time on their movements can be followed in considerable detail from the work of Procopius and later from the work of the Lombard historian, Paul the Deacon. For a consideration of the origin of the Lombards, see the monographs by F. Bluhme, *Die Gens Langobardorum und ihre Herkunft* (Bonn, 1868), and Ludwig Schmidt, *Aelteste Geschichte der Langobarden* (Leipsic, 1884). Our major sources for the history of the Lombards after they entered Italy are two histories written during the later days of the Lombard kingdom and the laws issued by the Lombard kings. The histories are the relatively unimportant and anonymous *Origo Gentis Langobardorum* (ed. by G. Waitz in *Monumenta Germaniae Historica, Scriptores Rerum Langobardicarum et Italicarum Saec. VI-IX*, Hanover, 1878), and Paul the Deacon's *History of the Lombards (Pauli Historia Langobardorum)* edited in the same volume. For the history of the Lombards just prior to their arrival in Italy, the Byzantine historian Procopius is the

main source. Both Paul the Deacon and Procopius are available in English translation. H. B. Dewing, *Procopius, with an English Translation* (London, 1919); and William Dudley Foulke, *History of the Langobards by Paul the Deacon, University of Pennsylvania Translations and Reprints Series* (New York, 1907).

2. The only surviving remnants of the Lombard language are the few Lombard words used in the *Leges Langobardorum,* the Lombard names which appear in the anonymous *Origo Gentis Langobardorum* and in the *History* of Paul the Deacon, and the very occasional Lombard term which appears in the charters surviving from the Lombard period. However, even upon this slender evidence, philologists have developed a theoretical Lombard language and grammar, building upon the fact that Lombard survivals indicate an excellent example of Grimm's law of consonant changes. For this Lombard language, see W. Bruckner, *Die Sprache der Langobarden* (Strassburg, 1895) and Carl Meyer, *Sprache und Sprachdenkmäler der Langobarden* (Paderborn, 1877). A later work, attempting to apply the laws of statistics to remnants of the Lombard language is Robert L. Politzer, *A Study of the Language of Eighth Century Lombardic Documents* (New York, 1949).
3. It has been argued that the Roman history of Italy really ends in 568 with the invasion of the Lombards, and it is from that time that Italian medieval history begins. In other words, after the Lombard conquest, the term "Roman" as used with reference to Italy has only a geographical significance and refers to the people and institutions of the Duchy of Rome. Not even in the parts of the peninsula under the control of the Eastern Roman Empire does the appellation "Roman" really fit. Cf. Gino Capponi, "Sulla Dominazione dei Longobardi in Italia," *Archivio Storico Italiano, Appendice* (Firenze, 1842-44), Vol. I.
4. The political history of Lombard Italy can be followed most accurately in L. M. Hartmann, *Geschichte Italiens im Mittelalter* (Gotha, 1897-1911), 4 v. In addition, the following are helpful: J. B. Bury, *A History of the Later Roman Empire from Arcadius to Irene (395 A.D. to 800 A.D.)* (London, 1889), 2 v.; Gino Capponi, *op. cit.;* L. M. Hartmann, "Italy Under the Lombards," *Cambridge Medieval History* (Cambridge, 1926), II; T. Hodgkin, *Italy and Her Invaders* (Oxford, 1896), Vols. III-VI.
5. "In these days many of the noble Romans were killed for love of gain, and the remainder were divided among their 'guests' and made tributaries, that they should pay the third part of their products to the Langobards." Paul the Deacon, *History of the Langobards,* Bk. II, Chap. 23. Whether or not this expression refers to a third of the land or a third of the products is still

a very controversial point among scholars but will not be considered here.

6. The institution of "hospitality" dates back to the time of the Late Empire when soldiers were quartered on the land, the soldier becoming the "guest" of the owner who was described as the "host." Later when the barbarians were admitted into the Empire in the status of *foederati,* these barbarians were also established on the land by a system of hospitality whereby the barbarians were usually allowed one-third of the property of the original owner. In this way, the barbarian became the "guest" of the Roman "host."
7. *Lex Gundobada,* LIV.
8. *Lex Visigothorum, X,* 1, 8.
9. See note 39 below.
10. The following statements are based on a translation of the Lombard Laws made by the author of this paper. The text used for the laws is that edited by F. Bluhme in the *Monumenta Germaniae Historica, Leges,* IV (Hanover, 1869).
11. The *Leges Langobardorum* were issued by several Lombard kings beginning in the seventh century and continuing through the middle of the eighth century. In addition to the laws issued by the Lombard kings themselves, there are a number of related laws issued by the Lombard dukes of Spoleto and Benevento which go through the ninth century. These latter laws were never applied throughout the Lombard domains, they have not been translated in entirety by the author and they do not influence the presentation of conditions in the Lombard Kingdom as presented in this paper. For the sake of reference, we might note the laws which are included in the following discussion: Rothair's Edict issued in 643 A.D. consisting of 388 titles; Grimwald's laws issued in 668 consisting of 9 laws; Liutprand's laws issued between 717 and 735 consisting of 153 laws; Ratchis' laws issued in 746 consisting of 14 titles; the laws of Aistulf issued in 750 and 755 consisting of 22 titles; and the presumably spurious law of King Desiderius issued perhaps in 757.
12. Rothair 20, 23, 24, 373; Liutprand 62.
13. That the Lombards were not far removed from a state of civilization, or lack of civilization, relying upon the bloodfeud or *faida* is quite evident from the *Leges.* Presumably, by the time the *Leges* were issued by the Lombard kings in the seventh and eighth centuries, the *faida* is no longer practiced, but the fact that its prohibition has to be repeated a number of times leads one to suspect that it was still quite common for these people to take justice into their own hands. The fact that cer-

tain minor offenses were to be compounded with a payment of some sort had long been accepted, and a system of tariffs for various types of injuries was well formulated. In such cases, it seems likely that the *faida* rarely arose. However, in certain more serious offenses, such as that of murder, arson, rape, or treason, the question was much more serious and it would presumably take a payment of considerable size to allay the wounded feelings of the injured family. By the period of the *Leges*, a composition has been established even for these serious offenses, but the composition set is so high that it would certainly need a considerable amount of police power on the part of the state to exact it, and if this were lacking, the family no doubt did not hesitate to resort to the old method of taking revenge.

14. Rothair 14.
15. Rothair 41-125.
16. For example, Rothair's Edict cites the following payments for the cited injury: gouging out of an eye, ½ wergeld (Rothair 48); cutting off of a nose, ½ wergeld (Rothair 49); cutting off an ear, ¼ wergeld (Rothair 53); cutting off of a hand, ½ wergeld (Rothair 62); cutting off of a foot, ½ wergeld (Rothair 68); etc.
17. The failure on the part of Rothair to include a statement of the varying wergelds of freemen can probably be accounted for by the fact that the value of such wergelds was fixed according to customary law and the royal lawgiver probably felt under little compulsion to include matters so well known to all. By the time of Liutprand, the appearance of new kinds of freemen by the creation of special kinds of royal officials and followers probably necessitated the fixing of new wergeld limits.
18. Rothair 153-171.
19. Liutprand 19.
20. Rothair 204.
21. The term *mundium* seems to be derived from the word for "hand," the symbol of power. The Old High German root was *Munt*, Latinized as *mundium*. The word and the idea conveyed seem to be the same as the Latin *manus*. At any rate, the term expresses the power of the housefather over the members of his household. All of the dependent members of the household—women, minor sons, slaves, *aldii*—were not recognized as persons at law and their interests were always represented by the father, husband, or lord. Since these legally incompetent persons were not persons at law, their status approximated that of property, and the right to represent them was passed down according to the rules of inheritance in the male members of the family.

22. Rothair 178-200.
23. Rothair 215.
24. Rothair 215, Liutprand 120.
25. Liutprand 22, 29.
26. Rothair 202.
27. Liutprand 146; but note the exception in Liutprand 31.
28. Liutprand 13.
29. Grimwald 7.
30. Carlo Calisse, *A History of Italian Law, The Continental Legal History Series,* VIII (Boston, 1928), 73-74.
31. Rothair 130-136.
32. Liutprand 62.
33. Rothair 41-125.
34. Rothair 216.
35. Rothair 235, Liutprand 87.
36. Rothair 224 (IIII).
37. Liutprand 68, 97.
38. Rothair 208, 258, 376, Liutprand 124.
39. That the Roman population was so completely reduced was an idea put forth by Carlo Troya in his *Codice Diplomatico Longobardo* (Naples, 1845). It is accepted by T. Hodgkin, *Italy and Her Invaders* (Oxford, 1896), VI, 586-92, and by L. M. Hartmann, *Geschichte Italiens im Mittelalter* (Gotha, 1900), II, Bk. II, 2-8. However Gino Capponi in the article cited above, pp. 209-213 and 217-222, argues that for at least a portion of the Roman population—those of the lower class and *coloni*—although their position legally was no better under the Lombards and even perhaps a little worse—still in an economic sense, the Lombard conquest was an alleviation of their burdens, for since the Lombards had no system of regular taxation to furnish a source of income for the maintenance of the central government, such classes were relieved of the heavy taxes of the late Roman and Ostrogothic periods. Capponi goes on to state that not only did the Lombards not treat the Romans in the severe fashion usually accepted, but they also had a considerable amount of appreciation for Roman accomplishments. The author of this paper feels that the arguments of Capponi can be carried even further in the direction of destroying the myth about the reduction of the Romans to the status of serfs under the Lombards. Such a position, however, is based primarily upon inferences from the Laws and is too detailed a topic to be gone into here.
40. Rothair 130, 131.
41. Rothair 103-137.
42. Rothair 132.

43. Rothair 133.
44. Rothair 134.
45. Rothair 135.
46. Rothair 136.
47. Rothair 222. The meaning of *gairethinx* is more logically explained below in connection with manumission.
48. Rothair 156.
49. Liutprand 97.
50. Rothair 105, 142, 376; Grimwald 7; Liutprand 124.
51. Liutprand 87.
52. Rothair 224.
53. Liutprand 23, 55; Aistulf 11.
54. Rothair 224 (I).
55. Rothair 224 (II).
56. Rothair 224 (III).
57. Rothair 224 (IIII).
58. This same formal procedure was followed also in making gifts or wills. It would seem that the procedure goes back to a prehistoric time because its very name, *gairethinx* ("spear assembly"), is reminiscent of a time when the tribal assembly met and before this assembly was transacted all judicial and contractual proceedings. The problem of whether or not the Lombards still held tribal assemblies after they entered Italy has never been solved, but it is most unlikely that they did because of the fact that the population of the nation was widely scattered in settlement. This, of course, would not make it impossible for regional assemblies to be held, and possibly such regional assemblies did meet at stated times during the year. However, the contractual arrangement which at one time was valid only when made before the spear-assembly of the nation, was by the time of the Lombard Edict valid when made according to a set form in the presence of several free witnesses. The idea of publicity is the important element in the act, however, for it is continually stressed that a man can hope to substantiate any claim he may make only if he can produce witnesses to the act. Cf. Carlo Calisse, *op. cit.*, pp. 502-503, and T. Hodgkin, *op. cit.*, VI, 194-96.
59. "Folkfree," i.e., he enjoyed the traditional freedom of the folk or nation.
60. Rothair 224 (I).
61. Rothair 224 (II).
62. Rothair 224 (III).
63. Rothair 224 (IIII).
64. The laws involving the offense of breach of the peace in the Lombard Laws are those involving the crime known technically as

scandalum. This offense seems to have included something of the notion of treason toward the king or state. At any rate, certain places—the palace of the king, any city where the king was present, and even the churches—seem to have enjoyed a special royal protection or peace. Breach of the peace in any of these places and in a few others was regarded as a slight on the authority of the state and consequently involved an extremely high composition. See Titles 8 and 35-40 of Rothair's Edict. Cf. the notion of the king's highway in England.

65. The *sculdahis* was an extremely important local representative of the king, his position corresponding somewhat to that of the sheriff in England.

66. Such is approximately the same situation as that which existed in Anglo-Saxon England where land held by "book" was land held by a special charter, whereas land held by folk law was that land which was secured originally by the law of the folk, that is, by some distribution long in the past, when no special charter was necessary.

67. I should like to express my appreciation to Professors Floyd S. Lear and Carroll Camden for reading this manuscript and for offering a number of valuable suggestions.

GREENOUGH'S THEORY OF BEAUTY IN ARCHITECTURE*

HORATIO GREENOUGH was born in Boston, September 6, 1805, one of eleven children of a successful self-made man who dealt in real estate and built some of the houses in Colonnade Row. Horatio studied at Harvard in the early 1820's. This was evidently a difficult time in the history of the great university. He describes his education there in the following manner: "Fain would I also lay claim to the title of self-made man; indeed, I graduated at Harvard . . . which they who knew the school will allow was near enough self-making to satisfy any reasonable ambition."[1]

Greenough left before the end of his senior year for Italy, his diploma following after; he was determined to be a sculptor and could not begin too soon. He had encouragement from Washington Allston, and letters of introduction and recommendation to Thorwaldsen in Rome. In 1829 he set up a studio in Florence, where he became, "in a manner," as his brother Henry said, "a pupil of Bartolini," an Italian portrait sculptor whose work he admired; and in the course of the next twenty-two years, most of which he spent in Florence, he produced many portrait busts on commission, also full-lengths, and several imaginative groups, single figures and bas-reliefs. His sitters, abroad or at home, included John Quincy Adams, Lafayette, and James Fenimore Cooper. For Cooper he produced the "Chanting Cherubs," the first marble group from the chisel of an American artist. Allston wrote to Daniel Webster recommending Greenough to exe-

* A public lecture delivered at the Rice Institute on November 11, 1951.

cute a statue of George Washington for the government; Cooper and Edward Everett backed the recommendation, and the result was the seated figure, 11 feet 4 inches high, intended for the rotunda of the Capitol, which is now in the Smithsonian Institution. Greenough also executed for the Capitol the group entitled "The Rescue," an American colonial settler restraining an Indian from tomahawking a woman and her infant while a large dog stands inactively by, which adorns a buttress of the steps to the East Front door. With the exception of a few visits home, Greenough lived in Florence until the events of monarchic reaction sent him home in 1851.

Greenough counted among his friends the philosopher Emerson, who mentions him handsomely in *English Traits;* the novelist Cooper, the artist and inventor Samuel F. B. Morse, and many more among the American great and near-great of his day. His studio at Florence was frequently visited by travellers of consequence. He kept in touch with his homeland and did not regard himself as an expatriate. He died in Somerville, near Boston, December 18, 1852.

Greenough's life span is approximately the same as the period of the Classic or Greek Revival in American art. By European standards, Greenough is not ranked among the outstanding sculptors, but in addition to his numerous sculpture commissions, Greenough found time to write on the subjects of architecture, sculpture and painting.[2]

Bernard Berenson has aptly expressed a significant truth: He wrote, "Every generation has an innate sympathy for some epoch of the past wherein it seems to find itself foreshadowed."[3] Today Greenough is best known for his writings on architecture wherein he expressed many ideas which such modern architects as Sullivan, Wright, and Le Corbusier have also expressed. Greenough's ideas are preserved

in three books. In *The Travels, Observations, and Experience of a Yankee Stonecutter* (New York: G. P. Putnam, 1852), under the pseudonym of Horace Bender, Greenough presented a collection of his magazine and newspaper articles, squibs, and fragments. The *Memorial of Horatio Greenough* (New York: G. P. Putnam, 1853), edited by Henry T. Tuckerman, art critic, was issued soon after the sculptor's death. In the *Memorial,* much of the *Travels* is repeated, verbatim or with slight modifications, and some pieces are included which are not in the *Travels.* The third of the three Greenough books was published in 1947, by the University of California Press of Berkeley and Los Angeles, under the title *Form and Function, Remarks on Art by Horatio Greenough.* It was edited by Harold A. Small, with an introduction by Erle Loran. In general this new book faithfully renews the Tuckerman *Memorial.* Four essays are omitted as contributing little to the main theme, and printer's errors in the *Memorial,* antique spellings, punctuation, and stylistic particulars have been corrected. Mr. Small has also contributed notes and a bibliographical appendix. My quotations from Greenough are from *Form and Function.*

Greenough's ideas on architecture are impressively modern and come under the heading of what is now called "functionalism," a term used to denote adherence to the principle "form follows function," and the analogy between architectural and organic form.

Greenough wrote: "If there be any principle of structure more plainly inculcated in the works of the Creator than all others, it is the principle of unflinching adaptation of forms to functions. I believe that colors also, so far as we have discovered their chemical causes and affinities, are not less

organic in relation to the forms they invest than are those forms themselves." (Page 118.)

As Greenough looked upon God's organic creations he observed that form and color follow function. As Greenough looked upon God's organic creations he saw them as beautiful. He refused to admit that God had created an unbeautiful living thing. Even the most humble forms of life were beautiful to Greenough. Since Greenough accepted the principle of adaptation of forms to functions and the principle of perfect beauty in all of God's creatures, it was logical for him to connect beauty with function.

Greenough defined *beauty* as "the promise of function," *action* as "the presence of function," and *character* as "the record of function." These he acknowledged, are arbitrary divisions of that which is essentially one. They are the phases through which organized intention (or design) passes to completeness. They apply to the creations of mankind as well as the creations of God.

According to Greenough, the promise of function is made sensuously pleasing as a result of a God-given instinct. He offered a brief and poetic explanation of this. "The inchoate organic life needs a care and protection beyond its present means of payment. In order that we may respect instinctive action which is divine, our eyes are charmed by the aspect of infancy, and our hearts obedient to the command of a visible yet impotent volition." (Page 72.) It thus appears that beauty is not the *promise* of function so much as the way in which we react to it, but Greenough was not concerned whether beauty is a quality of objects or a mode of response to them because it did not appear as a problem to him.

Although beauty is the *promise* of function, Greenough

made it clear that it must not be confused with nonperformance. He regarded meaningless embellishment as a type of nonperformance. We read, "Not to promise forever, or to boast at the outset, not to shine and to seem, but to be and to act, is the glory of any coordination of parts for an object." (Page 73.)

As we shall see, Greenough acknowledged the validity of sculptural embellishment for certain types of architecture, but he regarded embellishment as false beauty when it tried to make up for or conceal defects in organization.

> The normal development of beauty is through action to completeness. The invariable development of embellishment and decoration is more embellishment and more decoration. The *reductio ad absurdum* is palpable enough at last; but where was the first downward step? I maintain that the first downward step was *the introduction of the first inorganic nonfunctioning element, whether of shape or color.* If I be told that such a system would produce *nakedness,* I accept the omen. In nakedness I behold the majesty of the essential instead of the trappings of pretension. (Page 75.)

Greenough regarded the human frame as "the most beautiful organization of earth, the exponent and minister of the highest being we immediately know." (Page 120.) In his admiration for the beauty of the unadorned human frame, he was clearly within the tradition of the Classic Revival.

Moral values in architectural criticism, such as were expounded by his contemporaries John Ruskin and Edward Lacy Garbett,[4] were not rejected by Greenough. For example, he agreed with Garbett that a house can look selfish. Morals and manners are (ideally at least) functional. They render the necessary unselfish by conforming it to the principle: the greatest good for the greatest number. Because of our moral outlook we regard the socially desirable as personally necessary. Therefore it is logically possible if not mandatory to combine the functionalist and moralist approach to archi-

tecture. Ruskin's "pupil," Garbett, did so, and Greenough saw no inconsistency in this. But Greenough insisted that immoral qualities such as selfishness and cruelty when they appear in architecture are *symptomatic* of bad organization or function. Conversely, moral qualities such as unselfishness are symptomatic of good organization or function. Unfortunately Greenough generally avoided the moral issue inherent in functionalism; hence he was not forced to resolve this interesting issue. The bulk of his writing was devoted to other subjects.

Greenough rejected all rules for good proportion, all principles of composition save one: study the manifold varieties of life and observe how the beauty of living things is a result of the adaptation of forms to functions. All beauty is relative. The proportions of one plant or animal cannot be transferred to that of another. Greenough did not recommend inanimate nature and avoided reference to it. It seems fair to assume that if the question of the beauty of inanimate forms did arise, Greenough would be forced to deny it, because without life there can be no adaptation of forms to functions. If a landscape possessed beauty it would be because of the living things contained in it, their presence or their creations.

Now let us turn to the problem of style. As we have previously observed, Greenough lived in an age in which the revival of Greek forms of architecture was fashionable, the period of the so-called Classical Revival style. Although he was a successful sculptor working within the Classical Revival discipline, he did not approve of the practice of copying Greek or Roman forms or of limiting one's study to the classic models. Instead, he saw beauty in the functional productions of all styles.

Greenough was ahead of his time in his enthusiastic ad-

miration for primitive implements. He also regarded as beautiful the early American farmhouses of New England which had become generally unpopular as a result of the influence of Thomas Jefferson and other classicists.

Greenough also praised the style-less beauty of engineered products such as machines, bridges, and sailing ships. He believed that if architects had but eyes to see they could learn a lesson in design by studying the development of machines. "If we compare the form of a newly invented machine with the perfected type of the same instrument, we observe, as we trace it through the phases of improvement, how weight is shaken off where strength is less needed, how functions are made to approach without impeding each other, how straight becomes curved, and the curve is straightened till the straggling and cumbersome machine becomes the compact, effective, and beautiful engine." (Page 59.)

In his praise for the American construction of bridges he observed that they are not designed according to authoritarian principles or rules for good form, but are the result of good practical sense. He saw in the majesty of a sailing ship an organization second only to that of an animal. "What academy of design, what research of connoisseurship, what imitation of the Greeks produced this marvel of construction?" asked Greenough. "Here is the result of the study of man upon the great deep, where Nature spake of the laws of building, not in the feather and in the flower, but in winds and waves, and he bent all his mind to hear and to obey. Could we carry into our civil architecture the responsibilities that weigh upon our shipbuilding, we should ere long have edifices as superior to the Parthenon, for the purposes that we require, as the *Constitution* or the *Pennsylvania* is to the galley of the Argonauts." (Page 61.)

Greenough often expressed great admiration for the Greek

masters of art and architecture, and when he advocated functional architecture he did so in the name of Greek principles. The principles of Greek architecture were to Greenough the same as his universal principles of functional design. He stated that the men who designed the yacht "America" and the trotting wagon were nearer to Athens than those who would bend the temple to every use or mask the chaos of ill-arranged, ill-lighted, and stifled rooms behind the copy of a Greek façade.

Greenough did not advocate the revival of any *one* historic style. We should create our own style.

> The fundamental laws of building found at the basis of *every* style of architecture must be the basis of ours. The adaptation of the forms and magnitude of structures to the climate they are exposed to, and the offices for which they are intended, teach us to study our own varied wants in these respects. The harmony of their ornaments with the nature that they embellished, and the institutions from which they sprang, calls on us to do like justice to our country, our government, and our faith. As a Christian preacher may give weight to truth, and add persuasion to proof, by studying the models of pagan writers, so the American builder by a truly philosophic investigation of ancient art will learn of the Greeks to be American. (Pages 66, 67.)

Greenough's inclination was toward nature first—then toward Greece. "Let us consult nature, and in the assurance that she will disclose a mine richer than was ever dreamed of by the Greeks." (Page 57.) The greatness of Greek artists was due to their ability to learn lessons taught by nature. Their greatness was a reflection of her glory.

We now come to the problem of the ornamentation of almost all historic styles. How did Greenough reconcile the almost universal presence of ornament with the principle "beauty is the promise of function"? Did not the Greeks embellish with sculpture their most austere temples?

Greenough admitted of two legitimate approaches to

architecture: organic and monumental. Organic buildings are "formed to meet the wants of their occupants. . . . The laws of structure and apportionment, depending on definite wants, obey a demonstrable rule. They may be called machines." Monumental buildings are "addressed to the sympathies, the faith, or the tastes of a people." They are "bound by no other laws than those of the sentiment which inspires them, and the sympathies to which they are addressed." They "occupy the positions and assume the forms best calculated to render their parent feeling. No limits can be put to their variety; their size and richness have always been proportioned to the means of the people who have erected them." (Pages 64, 65.) These two great classes of buildings, the organic and the monumental, are not always separate and distinct. The ideas are sometimes joined or mixed in the same building.

Greenough continued:

> In all remarks upon important public edifices there is a twofold subject under contemplation: first, the organic structure of the works; second, their monumental character. To plant a building firmly on the ground; to give it the light that may, the air that must, be needed; to apportion the spaces for convenience, decide their size, and model their shapes for their functions—these acts organize a building. . . . The monumental character of a building has reference to its site—to its adaptation in size and form to that site. It has reference also to the external expression of the inward functions of the building—to adaptation of its features and their gradation to its dignity and importance; and related, moreover, to that just distinction which taste always requires between external breadth and interior detail. (Pages 20, 21.)

Monumental buildings are likely to be adorned with sculpture, but sculpture should be subordinate to the building which is adorned. Architectural sculpture should be organic in nature. Greenough saw in the pure Doric temple a confirmation of the doctrine of strict adaptation. He felt

that the sculptures had an organic relation to the functions of the edifice;

> They took possession of the worshipper as he approached, lifted him out of everyday life, and prepared him for the presence of the divinity within. . . . The world has never seen plastic art developed so highly as by the men who translated into marble, in the tympanum and the metope, the theogeny and the exploits of the heroes. Why, then, those columns uncarved? Why, then, those lines of cornice unbroken by foliages, unadorned by flowers? Why that matchless symmetry of every member, that music of gradation, without the tracery of the Gothic detail, without the endless caprices of arabesque? Because those sculptures *spake*, and speech asks a groundwork of silence and not of babble, though it were of green fields. (Pages 123, 124.)

I have presented Greenough's theory of beauty and his point of view toward architecture. Portions of Greenough's essays are criticisms of specific buildings in which he applies his theory. He was severe in his criticism of the lack of functionalism in the buildings and landscape architecture in Washington. Criticizing the high-relief sculpture in the tympanum of the Capitol building, he wrote, "it is the translation of rhetoric into stone—a feat often fatal to the rhetoric always fatal to the stone." (Page 19.) Greenough compared the effect of crowding a modern building into the form of a temple (such as Thomas Jefferson's model of the Maison Carrée for the State House at Richmond) to the effect produced by an African king, "standing in mock majesty with his legs and feet bare, and his body clothed in a cast coat of the Prince Regent." (Page 63.) He described Mill's original design for the Washington Monument which was to be an obelisk surrounded at the base by a circular Doric colonnade as "the intermarriage of an Egyptian monument . . . with a Greek structure . . . corrupting and destroying the special beauties and characters of the two elements." (Page 23.) Greenough's criticism of contemporary buildings was se-

verely unfavorable, but it was always the result of the application of a few clearly stated principles in which he sincerely believed.

Greenough did not acknowledge the sources of his ideas, but there are essays and parts of essays dealing with the theoretical writings of other critics. There is one criticising Edmund Burke's theory of beauty. William Hogarth's line of beauty also received lengthy condemnation. There are also some critical remarks about Sir Joshua Reynold's ideas on art. When one reads Greenough's criticism of these men one gets the impression that their ideas are far removed from those of Greenough. However, upon reading these authors one discovers points of similarity. Greenough is regarded today as an original thinker, though not as a scholar. He is regarded as a precursor of Louis Sullivan and Frank Lloyd Wright. It is true that Greenough's thinking was characterized by an unusually persistent stress upon the idea of adaptation of art forms to functions, but as a matter of fact throughout the eighteenth century, writers turned their attention to the aesthetic effect of fitness and a comparison of the idea of structure in nature and art. This applies to the writings of George Berkeley, Francis Hutcheson, David Hume, Uvedale Price, Archibald Alison and Payne Knight, as well as of Reynolds, Burke, and Hogarth.[5]

Burke's *Philosophical Inquiry into the Origin of Our Ideas of the Sublime and Beautiful* was originally published in 1757. In this essay, the author inquired into the nature of taste and beauty and discussed the qualities in objects which he thought were the cause of their beauty. According to Burke, beauty is neither a separate faculty of the mind nor an instinct. He stated: "beauty is for the greater part, some quality in bodies acting mechanically on the human mind by the intervention of the senses."[6] Thus he offered a psycho-

logical explanation of beauty (albeit a crude one) in contrast to Greenough's theological explanation. Burke found beautiful objects small. (Sublime is his word for the beauty of vastness.) Smoothness is another quality of beautiful objects. Gradual variation (that is, the absence of monotonous, brutal, or awkward parts) is another. Delicacy of form (that is, just the right amount of strength and mass, neither too much nor too little) is another. Clear, clean, and mild (that is, harmonious) color is another quality. Burke thus excluded fitness as a quality of beautiful objects, *but* he did *not* say that fitness is of no value in a work of art. He stressed the principle that good proportion is a result of fitness. In fact, he maintained that there is no other way of achieving good proportion save by forming objects so as to achieve fitness for function. But proportion and beauty are separate concepts in Burke's theory. Proportion elicits the cold approbation of reason. Beauty elicits a warmer response. In his chapter on "The Real Effect of Fitness," Burke wrote:

> When I excluded proportion and fitness from any share in beauty, I did not, by any means, intend to say that they were of no value, or that they ought to be disregarded in works of art. Works of art are the proper sphere of their power; and here it is that they have their full effect. . . . The effect of proportion and fitness, at least so far as they proceed from a mere consideration of the work itself, produces approbation, or the aquiescence of the understanding, but not love, nor any passion of that species. . . . In beauty, as I said, the effect is previous to any knowledge of use; but to judge of proportion, we must know the end for which any work is designed. According to the end the proportion varies. . . . Good sense and experience, acting together, find out what is fit to be done in every work of art. We are rational creatures, and in all our works we ought to regard their end and purpose; the gratification of any passion, how innocent soever, ought to be of secondary consideration. Herein is placed the real power of fitness and proportion; they operate on the understanding considering them, which *approves* the work, and acquiesces in it.[7]

Greenough ignored Burke's discussion of the importance of fitness but devoted an essay to an attack on his theory of the physical characteristics of beautiful objects. Greenough argued that qualities such as smoothness, smallness, gradual variation, delicacy, and color are relative qualities. They must be interpreted organically. For example, you cannot transfer the smoothness of marble to the smoothness of the human skin or the smoothness of the eyeball. Each is a different kind of smoothness. Furthermore, the quality of delicacy praised by Burke when interpreted organically according to Greenough, "cannot mean anything more . . . than a normal and healthy apportionment of means to ends." Color must also be a relative quality when interpreted organically. "The color of the lips is as beautiful as the absence of color in the teeth." Greenough concluded: "That which is fitted to one relation is therefore *unfitted* for another and different relation. That which is beautiful in one connection is *therefore* deformed in another and different connection. To deal with relative elements as if they were positive is to insure discord and disorganization."[8]

Turning to Hogarth, Greenough limited his criticism to Hogarth's line of beauty, a graceful, moving s-curve. As in his criticism of Burke's characteristics, Greenough applied the principle of organic analogy. He wrote:

> Hogarth's ingenious plea for his line of beauty holds good with regard to the spinal column and the necks of long-necked birds and beasts. It is the line of moving water, of flowing draperies, and of many pleasing vegetable forms; but if we drop from the flank of the horse, where we find it, to the shank which is thin, straight and hard, we get a new sense of beauty, and not a sacrifice thereof. With Hogarth's formula in hand, we must accept the vagaries of Bernini and condemn the Greek peristyle and pediment. This famed line is truly indicative of motion, of the double element of inertia or resistance on the one hand and of a moving power on the other. From its inevitable significance and uniformity of

> expression, it becomes monotonous by repetition, incongruous and impertinent wherever such a double action is out of place. Transfer the waving line of a horse's flank to his metatarsal bone, and you have a cripple. Transfer the double curve of a swan's neck to his bell, and you have an impotent and therefore ridiculous arrangement. (Pages 97, 98.)

By selecting Hogarth's line of beauty for separate criticism, Greenough did less than justice to a great artist and competent theorist. In his *Analysis of Beauty,* first published in 1753, Hogarth attempted to fix the fluctuating ideas of taste. The problem of taste was a vital one in the eighteenth century. Taste had been freed from the shackles of academic authority but the revolution had gone to the opposite extreme and many writers on art now sought to determine whether taste was anything more than merely fluctuating and personal.

In his introduction, Hogarth stated his purpose: "I shall now proceed to consider the fundamental principles, which are generally allowed to give elegance and beauty, when duly blended together, to compositions of all kinds whatever. . . . These principles . . . are fitness, variety, uniformity, simplicity, intricacy, and quality;—*all of which cooperate in the production of beauty, mutually correcting and restraining each other occasionally.*"[9] Thus we see at once the true breadth of scope of Hogarth's analysis. The line of beauty is only an incident and not the sum and substance of Hogarth's theory.

In truth, Hogarth's ideas on the subject of the relation of form, function and beauty, which he developed a century before Greenough, in many respects anticipated the latter. Hogarth used the term "fitness," which was popular among early eighteenth-century writers, whereas Greenough used the expression "adaptation of forms to functions," which was common in biological literature in the late eighteenth and

early nineteenth century, but both expressed the same general concept. Hogarth wrote: "Fitness of the parts to the design for which every individual thing is formed, either by art or nature, is first to be considered, as it is of the greatest consequence to the beauty of the whole."[10] He condemned twisted columns because they conveyed an idea of weakness inappropriate to a structural support.

According to Hogarth,

> The bulks and proportions of objects are governed by fitness and propriety. It is this that has established the size and proportion of chairs, tables, and all sorts of utensils and furniture. It is this that has fixed the dimensions of pillars, arches, etc. for the support of great weight, and so regulated all the orders in architecture, as well as the sizes of windows and doors, etc. Thus, though a building were ever so large, the steps of the stairs, the seats in the windows, must be continued of their usual heights, or they would lose their beauty with their fitness: and in ship-building the dimensions of every part are confined and regulated by fitness for sailing. When a vessel sails well, the sailors call her a *beauty*; the two ideas [fitness and beauty] have such a connection![11]

Hogarth then observed that "the general dimensions of the parts of the human body are adapted to the uses they are designed for." This principle applies to all forms of life. Hogarth argued that both the race horse and the war horse are beautiful types whose forms are adapted to their functions but whose proportions cannot be interchanged without destroying their beauty. He compared them with the figures of Mercury and Hercules, and concluded that to "interchange parts would disgust and deform, instead of adding beauty; *because* the judgment would condemn it as unfit."[12]

Hogarth did not live in an age of efficient machines; hence he does not express great admiration for their fitness and beauty. His admiration was for the "living machines of nature," and he contrasted with them the poor ones men are

capable of making. To illustrate this he described a clock made by a Mr. Harrison, by the government's order, for the keeping of true time at sea. The clock was awkward in form and contained apparently superfluous parts. "But," exclaimed Hogarth, "in nature's machines, how wonderfully do we see beauty and use go hand in hand!"[13]

Thus we see that Hogarth believed fitness to be the most important factor in the creation of beautiful objects. Hogarth anticipated Greenough in his admiration for the functional beauty of nature's forms and in his admiration for the beautiful fitness of perfected man-made objects such as the sailing vessel. He did not, like Greenough, identify beauty with fitness to the point of saying that fitness alone is the cause of beauty.

Greenough's criticism of Sir Joshua Reynolds was for his alleged suppression of Gainesborough and Wilson. To Greenough, Reynolds was a symbol of the point of view of the Academy, and Greenough was too democratic to approve of academic dictatorship in art.

Reynolds delivered his famous lectures to the Royal Academy between 1769 and 1786. In them he presented his point of view toward art. Reynolds paid very little attention to the effect of fitness upon architectural form. His point of view was that of a painter, and he did regard the effect of fitness upon the proportions of the human body. However, it is Reynolds' view of nature that is of particular interest to our present analysis. Roger Fry has called attention to the three ways in which Reynolds used the word "nature."[14] He used it, (1) in the ordinary sense in which artists used the word: as the sum of visible phenomena not made by artifice. (2) It is used in the Aristotelian sense as an immanent force working in the refractory medium of matter towards the highest perfection of form. (3) Nature is not only what nature pro-

duces, or what nature strives to produce, but whatever is agreeable to the affections and predispositions of the mind. "In short," Reynolds stated, "whatever pleases has in it what is analogous to the mind, and is, therefore, in the highest and best sense of the word, natural." In another context, Reynolds stated: "The terms beauty, or nature, which are general ideas, are but different modes of expressing the same thing."

Nature, then, was for Reynolds as for Greenough, the great source of inspiration and guidance. For the former, nature's archetypes (or the forms she strives to attain) are the perfect models of beauty. Reynolds conceded that nature sometimes produces a deformity and often falls short of perfection, but perfect beauty, he maintained, is more common in nature than deformity. Greenough as we have seen, ignored the fact that nature occasionally produces deformity. He did not recognize that possibility when he presented his arguments. Obviously, the exceptional case meant less to Greenough than the general rule. The real difference between the two views of nature is that Greenough attributed nature's beauty to the principle of strict adaptation of forms to functions, whereas to Reynolds, beauty for each species was embodied in a perfect archetype existing in the mind of the Creator and toward which the species was striving. Obviously, Reynolds' perfect archetype functioned perfectly, but this was not singled out by Reynolds as the cause of beauty.

Another possible contributor to Greenough was his friend and patron, James Fenimore Cooper, whose novel, *Home as Found*, published in 1838, contains ideas on architecture similar to those of Greenough. Cooper wrote contemptuously of the fashion for building little Greek temples for American churches, banks, taverns, court-houses, and dwellings. The character Aristabulus Bragg announces: "A friend of mine

has just built a brewery on the model of the Temple of the Winds."[15] Cooper also wrote in the same book:

> The fault just now is perhaps to consult the books too rigidly, and to trust too little to invention; for no architecture, and especially no domestic architecture, can ever be above reproach, until climate, the uses of the edifice, and the situation, are respected as leading considerations. Nothing can be uglier *per se*, than a Swiss cottage, or anything more beautiful under its precise circumstances. As regards these mushroom temples which are the offspring of Mammon, let them be dedicated to whom they may, I should exactly reverse the opinion and say, that while nothing can be much more beautiful, *per se*, nothing can be in worse taste than to put them where they are.[16]

These brief quotations from Cooper are enough to reveal his point of view. The parallel with Greenough is too obvious to warrant clarification, but it must remain a parallel until it can be proven that Greenough learned from Cooper, or Cooper learned from Greenough.

A more certain direct influence upon Greenough was Ralph Waldo Emerson. It now appears that Greenough and Emerson helped each other to develop theories of architectural beauty. From Emerson's *English Traits*, we learn of his first meeting with Greenough in 1833 during Emerson's tour of Italy: "At Florence, chief among artists, I found Horatio Greenough, the American sculptor. . . . Greenough was a superior man, ardent and eloquent, and all his opinions had elevation and magnanimity. . . . He was a votary of the Greeks and impatient of Gothic art."[17] At this time, according to Emerson's account, Greenough expounded to him his theory of architecture. In this year, 1833, Emerson was only twenty-nine years old. We learn from his biographical writings that he was more interested in men and associations than art. It is true that he was impresed by the great church of St. Peter in Rome and the Cathedral of Milan, but his ideas on archi-

tecture, he admits, were vague and incomplete. Emerson's contact with Greenough in 1833 encouraged him to think further along the same lines. As time passed, Emerson became very much interested in art and especially in architecture. He developed a profound organic theory of architecture. By 1852, the year of Greenough's death, his friendship with Emerson was so strong that the two exchanged many letters on the subject of art and architecture, and Greenough visited Emerson at Concord. Greenough was preparing his essays for publication in book form. At this time, Emerson seems to have been the master and Greenough the pupil.

Emerson's ideas on art and architecture are scattered in numerous writings. Regis Michaud, in his book, *L'esthétique d'Emerson,* published in 1927, gave us the results of the first thorough study of Emerson's aesthetic theory. The most recent book on the subject is Vivian C. Hopkin's *Spires of Form,* published this year by the Harvard University Press. There have been a number of scholarly magazine articles on the subject.[18]

Emerson, in 1841, developed his ideas on the "metaphysics" of architecture in an article which appeared in *The Dial.*[19] Emerson bridged the gap between the Aristotelian view of art and nature held by Sir Joshua Reynolds and the functionalist viewpoint of Greenough. He maintained that the soul is subservient to the Universal Mind, and that therefore art, which is the creation of the soul, is strictly dependent upon nature, which is the Universal Mind's representative. The division of nature into the two aspects—material and ideal—led Emerson to the formulation of two interesting doctrines, as follows:

Since art is subservient to the material aspect of nature, it follows that works of art must conform to natural laws. This conformation applies especially to architecture. One

cannot build as he wishes, but as he must. "It is only within narrow limits that the discretion of the architect may range. Gravity, wind, sun, rain, the size of men and animals, and such like, have more to say than he."[20] In other words, form is largely determined by material properties and physical laws. The architect cannot get free of this material basis, but on the other hand, such things as the mass of a building or the materials used can actually be a source of pleasure.

Since art is also subservient to nature in its ideal aspect, works of art will be expressions of the Universal Mind that formed nature, and therefore must be based on reason and necessity. Emerson wrote:

> Arising out of eternal reason, one and perfect, whatever is beautiful rests on the foundation of the necessary. . . . Fitness is so inseparable an accompaniment of beauty, that it has been taken for it. The most perfect form to answer an end is so far beautiful. . . . We feel, in seeing a noble building, which rhymes well, as we do in hearing a perfect song, that it is spiritually organic, that is, had a necessity in nature for being, was one of the possible forms in the Divine mind, and is now only discovered and executed by the artist, not arbitrarily composed by him.[21]

Emerson's view of art and nature resembles Aristotle's view in many respects. He seems to have combined ideas derived from Plato and the Neo-Platonists as well as Aristotle. But the first two named sources had their greatest influence on Emerson's interpretation of the nature of the Creative process, which does not form a part of our present analysis. It appears that Aristotle was the richest source from which Greenough, Emerson, and the eighteenth-century writers drew.

Aristotle regarded architecture as, above all, a practical or useful art. He regarded the art of architecture in the same light as the art of teaching or the practice of medicine. In this practical point of view he followed the prevailing con-

temporary point of view of his countrymen who linked architecture to the practical world. It sprang out of the needs of personal, civic, and religious life, and the greatest triumphs of the art were connected with public faith and worship.

Aristotle observed that all forms of art have a common denominator in nature. In a special sense, art *imitates* nature. The distinction between different forms of art lies first in what is selected for "imitation," second, the method of "imitation," and third, the end or purpose of the art form. In connection with Sir Joshua Reynolds and Ralph Waldo Emerson, I spoke of the Aristotelian view of nature. Aristotle frequently used the term "nature" to denote the laws, the creative forces, the productive principles of the universe, and not the outward appearances of things. He used the term "imitation" with various shades of meaning to denote the processes of completing nature's purposes, aiding her to do her work or realize her goals, or imitating nature's methods. When Aristotle said art imitates nature, he meant that art has, like nature, certain ends in view, and in the adaptation of means to ends catches hints from nature.

In *De Partibus Animalium*, Aristotle demonstrated how the higher we ascend the scale of being through insect and animal to human existence, the more does nature need assistance in carrying out her designs. Man, who is her highest creation, she brings into the world more helpless than any other animal,—unshod, unclad, and unarmed. But, Aristotle reasoned, in his seeming imperfection lies man's superiority, for the fewer the finished appliances with which he is provided, the greater is the demand for intellectual effort. By means of the rational faculty of art, with which nature has endowed him richly, man is able to come to her aid, and in ministering to his own needs to fulfill her uncompleted purposes. Where from any cause nature fails, art steps in. Nature aims at pro-

ducing health; in her restoration processes we observe an instinctive capacity for self-curing. But she does not always succeed, and the art of the physician makes good the defect. He discovers one of the links of the chain which terminates in health, and uses nature's own machinery to start a chain of reactions which lead to the desired result. In the *Politics*, Aristotle maintained that nature had formed man to be a political animal. Family and tribal organization are stages on the way to a more complete existence, and man has now reached an order of community living called the state. The state, Aristotle asserted, is a natural institution which requires the political art to organize it and to realize nature's full idea. He who would be a master in any art must first discern the true end by a study of nature's principles, and then employ the method which she suggests for the attainment of that end. Useful art supplants nature, and at the same time follows her guidance.

Aristotle did not distinguish between fine and useful art. In sculpture, painting, and architecture as well as in medicine, the principle of the art is to complete in some sense the work of nature. Medicine imitates the *methods* of nature in achieving her goals, but in the arts of sculpture or painting it is not the *method* of nature but the *goal* which is imitated. Imitation in this sense is not merely a mechanical reproduction; it is a creative act. In his book entitled *Aristotle's Theory of Poetry and Fine Art*, Samuel Henry Butcher paraphrases Aristotle's theory of creative imitation as follows: "It is the expression of the concrete thing under an image which answers to its true idea. To seize the universal, and to reproduce it in simple and sensuous form is not to reflect a reality already familiar through sense perception; rather it is a rivalry of nature, a completion of her unfulfilled purposes, a correction of her failures."[22] Thus we see that all the

arts have the same general function or purpose. Greenough adopted a similar point of view. His definition of beauty as "the promise of function" was meant to apply to all forms of art, and he instructed *all* artists to seek in nature the principles of art. To Greenough, the principles above all which the artist should seek in nature were structure and organization—God's way of speaking to us—"God's utterance."

Greenough's admiration for the functional beauty which he found in even the humblest creatures is also to be found in Aristotle. In *De Partibus Animalium,* Aristotle pointed out that some of the humbler members of nature's kingdom may appear mean if taken singly and judged by the impression they make on the senses. However, their true beauty and significance are visible to the eye of reason, which looks not to the material elements or to the isolated parts but to the structure of the whole. In her structural faculty lies nature's perfection. With her, the attainment of the end "holds the place of the beautiful."

Another instance of the analogy of the organic and the beautifuul can be found in the *Metaphysics,* wherein Aristotle defined artistic "wholeness" or unity in organic terms. The parts which constitute an artistic whole must be inwardly connected, arranged in a certain order, structurally related, and combined into a system. A whole is not a mere mass or sum of external parts some of which may be omitted without perceptibly affecting the rest. It is a unity which is unfolded and expanded according to the laws of its own nature, an organism which develops from within.

In the *Poetics,* Aristotle applied the theory of organic unity to the literary arts. The idea of an organism underlies all of Aristotle's ideas about unity. It is tacitly assumed as a first principle of art, and in one passage is expressly mentioned as that from which the rule of epic unity is deduced. "The

plot must as in a tragedy be dramatically constructed; it must have for its object a single action whole and complete, with a beginning, a middle, and an end, *that like a single living organism* it may produce its appropriate pleasure."[23]

Thus we see that while Aristotle gave us no theory of beauty in architecture, he did give us a theory of art which undoubtedly was intended to include architecture. His point of view toward architecture was organic and functionalistic. In general this point of view is the basis of eighteenth-century architectural theory and it comes down into the nineteenth-century writings of Emerson and Greenough.

We may summarize as follows the basic differences between Greenough and the others we have noted who were theorizing in the Aristotelian tradition: The eighteenth-century writers saw that something akin to beauty was produced by those forms which were perfectly adapted to their functions. However, this appeal is to the rational faculty in man. There is another aspect to aesthetic enjoyment, a warmer, more emotional type of pleasure which we experience in the presence of certain forms or qualities of form. Emerson, like the eighteenth-century writers, saw fitness as a source of a high type of rational pleasure so close to beauty that it has been taken for it. Greenough closed the gap between fitness and beauty. To Greenough, the perception of beauty could be explained in terms of a God-implanted instinctive response to those forms which promise to function according to God's laws of organization.

Edward Robert DeZurko

NOTES

1. Horatio Greenough, *Form and Function: Remarks on Art by Horatio Greenough*, edited by Harold A. Small with an introduction by Erle Loran (Berkeley and Los Angeles: University of California Press, 1947), p. 4, 5. Subsequent page references to this edition will appear parenthetically in the text.

2. At the present time there is no full-length biography of Greenough. However, there are a number of references to him in books and articles. Those persons who wish to extend their acquaintance with Greenough should consult the works listed in the Bibliographical Appendix of Mr. Small's edition of Greenough's essays. In addition I suggest the essay on Greenough in F. O. Matthiessen's *American Renaissance* (London, Toronto and New York: Oxford University Press, c. 1941), pp. 140-152, and the portions on Greenough in Vivian C. Hopkins, *Spires of Form* (Cambridge: Harvard University Press, 1951), pp. 89-92 and 102.
3. Bernhard Berenson, *The Venetian Painters of the Renaissance,* 3rd ed. (New York and London: G. P. Putnam's Sons, 1911), p. vii. I would substitute "aspect" for "epoch."
4. Edward Lacy Garbett, *Rudimentary Treatise on the Principles of Design in Architecture as Deducible from Nature and Exemplified in the Works of the Greek and Gothic Architects* (London: J. Weale, 1850), a once popular volume, No. 18 in Weale's "Rudimentary" series. The writings of John Ruskin contain frequent reference to moral values as the basis for architectural criticism, but the chief sources are *Seven Lamps of Architecture* and *The Stones of Venice.* Ruskin wrote the *Seven Lamps* in the autumn of 1848 after a tour of Amiens and Normandy. The seven "lamps" were: sacrifice, truth, power, beauty, life, memory, and obedience. *The Stones of Venice,* first published 1851-1853, presents moral lessons deduced from the history of Venice as recorded in her monuments. "The Virtues of Architecture" (volume I, chapter II) is a lucid and convincing exposition of Ruskin's moralist viewpoint. Herein the three branches of architectural virtue are described as the duty of a building to, (1) act well, (2) speak well, and (3) look well.
5. It would require an extensive bibliography to include all eighteenth-century writings dealing with the idea of fitness. Of the group of authors I have listed, Berkeley and Hume placed greatest relative stress on the idea of fitness. Berkeley's functionalistic point of view toward architecture appears in *Alciphron,* first published in Dublin in 1732, an argument in dialogue form against atheism and free-thinking. References to aesthetics are scattered throughout the philosophical writings of David Hume (1711-1776). He was primarily interested in the problem of morality. His utilitarian position led him to distinguish between the merely useful and the socially beneficial.
6. Edmund Burke, *A Philosophical Inquiry into the Origin of Our Ideas of the Sublime and Beautiful with an Introductory Dis-*

course Concerning Taste, adapted to popular use by Abraham Mills (New York: Harper and Brothers, 1860), p. 141.

7. *Ibid.* pp. 133-135.
8. Greenough's essay on Burke appears in *Form and Function,* pp. 87-95.
9. William Hogarth, *The Analysis of Beauty* (London: Samuel Bagster, n.d.), pp. 47, 48.
10. *Ibid.* p. 49.
11. *Ibid.* pp. 50, 51.
12. *Ibid.* p. 52.
13. *Ibid.* p. 129.
14. Sir Joshua Reynolds, *Discourses, Delivered to the Students of the Royal Academy,* with introductions and notes by Roger Fry (London: Seeley and Company, Limited, 1905), pp. 39, 40.
15. *Form and Function,* p. 54 n.
16. *Ibid.* p. 66 n.
17. From Emerson's *English Traits,* as quoted in *The New Path,* II (1865), p. 136.
18. I am especially indebted to the article by Robert B. Shaffer, "Emerson and His Circle: Advocates of Functionalism," *Journal of the Society of Architectural Historians,* Vol. 7, Nos. 3-4 (July-December, 1948), pp. 17-20.
19. Ralph Waldo Emerson, "Thoughts on Art," *The Dial,* I (1840-1), pp. 367-378.
20. *Ibid.* p. 369.
21. *Ibid.* p. 375.
22. Samuel Henry Butcher, *Aristotle's Theory of Poetry and Fine Art* (London and New York: Macmillan and Co., 1895), p. 144.
23. *Ibid.* p. 176.